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CHIPS FROM OLD STONES.

BY THE AUTHOR OF

"HILL FORTS AND STONE CIRCLES OF ANCIENT SCOTLAND."

"BOOKS LIE, BUT THE STONE IS TRUE."

EASTERN PROVERB.

Privately Printed by

GEORGE WATERSTON & SONS, HANOVER STREET, EDINBURGH.

1881.

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CHIPS FROM OLD STONES.

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TO THE

Rev. Edward L. Barnwell,

OF MELKSHAM HOUSE, WILTS,

THESE NOTES ARE INSCRIBED

IN GRATEFUL REMEMBRANCE OF THE KINDNESS

WITH WHICH HE HAS IMPARTED TO THE AUTHOR THE BENEFIT

BOTH OF HIS OWN ANTIQUARIAN LORE

AND OF HIS GOODLY LIBRARY.

RAVENSCROFT, *1st August 1881.*

CHIPS FROM OLD STONES.

I.—SARDINIA.

IT must often have been remarked by those who are in the habit of reading treatises (great or small) on antiquities, that their authors, while sufficiently able to describe the objects they have seen, are, from the narrow field of their observation (it may have been a parish or a county), but ill furnished with a basis on which to found rational theories, and yet that the men who are in possession of the fewest facts are those who indulge in the greatest amount of theory.

In introducing these Notes of a visit to the Island of Sardinia, it is necessary to premise that my object in visiting that beautiful country was simply to do what the class of antiquaries above mentioned has not done—that is, over a wide range of observation, to examine carefully, and to measure and delineate some of those antiquarian puzzles, the Nuraghi. This I had previously done to many of the vast antiquities in Brittany; and being already familiar with the pre-historic structures of Scotland, I hoped to be in a position to better understand that class, both there and elsewhere, and to institute comparison where similarities exist.

I had perused many of the works of those who have written of the ancient towers of Sardinia, and after doing so, felt that not any of these individually, nor all of them collectively, conveyed to my mind a definite idea of the nature of those structures; and as Cavaliere Cara, President of the University of Cagliari, assured me that no other British visitor to the island had examined and measured the Nuraghi as I had done, it is to be hoped that my efforts in that line may throw some additional light on the subject.

The best of the books that describe the Nuraghi is undoubtedly that of De La Marmora, but its descriptions of them are somewhat indistinct, and the absence of that faculty which enables one to make drawings from nature frequently shows itself also in a want of descriptive power; for the same faculty, cultivated or uncultivated, seems needful for both of these tasks. De La Marmora could not draw, so he had to find another to do his illustrations, and that *other* appears not to have seen the objects themselves, but to have tried to delineate them from his descriptions. While they represent the Nuraghi in most fanciful forms—even as regards their aspects in his own day—they still more seriously misrepresent them as they now appear.

But under all these disadvantages there came out from them a dim glimmering of a something indicative of an ancient brotherhood between the round towers of this southern land and those of the far distant Scottish land; and the long-cherished desire more clearly to define that something, led at last to my presence amongst them.

Coming to Cagliari with introductions to the most learned and esteemed of its rulers and citizens, their thoughtful, skilful, kind, and continuous aid to me in the objects of my search was a matter of surprise, and shall be also of lasting gratitude. Of some of these gentlemen I shall again have occasion to speak, as their kindness has followed me to places far distant from their own beautiful city.

Looking out from the lofty ramparts of Cagliari, and remembering that De La Marmora had said there were in the island not fewer than four thousand Nuraghi, I naturally expected to have seen some of them in the wide extent of country that is visible from thence, but not even one could be seen. On inquiry, I was told that the cause of this unexpected circumstance was that they, having become the haunts and strongholds of a numerous banditti (and comfortable homes they must have made for such a class of men), the Government, in order to put an end to Brigandage, sent a Commission through the island, which broke down almost the whole of these ancient towers, so that now the nearest (and it is a broken one) is at the distance of a four hours' drive from the city. It is a double or twin one, vulgarly called "Nuraxi Anna," and is situated in the district Quarto. Though no longer able to show us Nuraghi, the view from the heights of Cagliari is an exceedingly grand one. Looking out from beneath the shade of its trees, we have the blue Mediterranean full in sight on one side; a creek stretches far inland on another; there are several little lakes on a third; and when the sun shines out in strength on all these waters, the scene is indeed one of dazzling beauty. Again, on another side is a far-reaching plain, studded with villages, gleaming and lighting up the green expanse. Beyond these stands a goodly array of mountains. It is at their base that "Nuraxi Anna" is found, and to it I resolved to go.

As for Cagliari itself, it stands on a rock of gentle ascent from the landward side, but presenting a bold cliff towards the sea. Its streets are very steep as they climb the stey ascent; but they are much broader than those of most Italian cities, and, what is better still, they are much cleaner. The houses of the humbler classes are furnished in a substantial, though somewhat clumsy, style, and seemed clean and orderly. The middle and upper classes generally live in "flats" of houses, like those of Edinburgh a hundred years ago. The shops are fairly supplied with goods, and there is one excellent restaurant; but as few travellers visit this city, the hotel accommodation is wretched. There are only two of these in a city of forty thousand inhabitants.

Cagliari is quite surrounded with antiquities — Phœnician, Egyptian, Moorish, Arabian, Greek, Roman, Spanish. In the suburbs is a fine Roman Amphitheatre, cut out of the solid limestone rock; and beyond it is a line of Egyptian Tombs, also cut out of the rock, and extending along the cliff overlooking the sea for well nigh half-a-mile. They have been formed by first running a long gallery through the front of the rock, and near its summit. This gallery or tunnel has windows looking to the outer world; and on the other hand, the tombs themselves penetrate into the cliff. Very many of the galleries have now burst out, and the doors of their tombs, instead of looking into them, now face the open scene. The colour of these tombs is almost a pure white, and the dropping water from their roofs has adorned them with many beautiful stalactites. Some of these chambers are so spacious that they were being used as ballrooms during the carnival days, which happened at the time of my visit. Such are the vicissitudes of human things! A gay season is the carnival at Cagliari. All through the day there are numerous masks on the streets; but it is not till the beautiful evening-tide that they are thronged with a crowd in "Festa." They are then illuminated, decorated, and plentifully supplied with instrumental music. There is no intoxication; no quarrelling among the multitudes. All seemed gay, good humour, and hearty enjoyment, in

which all classes of society shared. The nearest approach to mischief appeared to be when some one of the many young men who were dressed as nuns caught fast hold of some priest, and pitched into him, to the priest's evident discomfort.

Cagliari has a University, and in it a finely arranged museum. It is presided over by Cavaliere Gaetano Cara, who is also President of the Council of Education of Italy.* Among other kindnesses, he allowed me the use of anything in the museum or library of the University in a manner which home authorities would not have accorded. On making known to him my desire to visit "Nuraxi Anna," he kindly suggested that his son, Signor Alberto Cara, of the University, should accompany my party in the expedition. To this that gentleman kindly assented. In a queer-looking waggonette we set off to get a first sight of the long-desired Nuraghi. The road to it lay eastward, over a long stretch of level country, and through some of the smiling villages we all had been admiring, as we saw them from the ramparts of the city. On coming in among them, however, the gilding and the glory lent them by distance disappeared, and their houses were seen to be not bright or white, but grey and brown, for they were built of sun-dried bricks, made of clay and straw. Many of the cottages looked battered and shaky, after having stood the rains and floods of a few years. They are much subjected to floods; and the streams which run through them, and the flat valley on which they stand, soak the mud bricks in the rainy season. It can easily be imagined that it will be necessary to fill up the description of them by adding, that, year after year a desolating fever follows. But I saw these villages in sunshine and dust, and in them a robust-looking peasantry.

The first portion of our way was paved with water-rolled stones, and between our hard-set car and the hard-set roads, the measure of jolting was something quite new to our experience. But as we moved on, we had yet to learn that even this "low deep had a lower deep;" for there were sluggish streams to cross, and lurching into flood-worn holes, so that it seemed as if our waggon must needs perish by the way. Nevertheless, the half-witted Neapolitan driver lashed his horses with a will, as if he were still on the Toledo. And on we went, the habitations becoming fewer and fewer, until we seemed to leave them all behind, and to be alone in a stony wilderness. We were now on the skirts of the once distant hills, and were getting near to Nuraxi Anna. Soon the whip ceased to crack. The horses see where a stable stands, and they now are willing to run.

Nothing can be more lonely than the solitude in which we now are. There is no building in sight, save a ruined watch-tower on a rock by the sea-shore, and one wooden cottage to which the before-mentioned stable belonged. Strange to say, in the midst of this desolation there at once arrived a bright waggonette at the cottage door! It was the owner of the house, and with him a friend. They were known to Signor Cara, who introduced them to our party. The gentleman, in the kindest manner, showed us all over his cottage, put it at our entire disposal, ordered his housekeeper to attend to our wants, and then disappeared. Afterwards we learned that he and his friend were dining *al-fresco*, in order to leave the dining-room to us. This hospitable gentleman was the Inspector of Tunney Fisheries, and he was here on an annual visit to their station.

Dinner over, we started for the Nuraghe, and shall now endeavour to describe it. It is hoped that the accompanying sketch and plan (Plate I.) will assist this endeavour. While we were making our measurements and sketches, the friend of our hospitable entertainer (a Roman artist) was busy with a water-colour drawing of us and the Nuraghe, and when it was finished all our party were requested to write their names on the back of it.

Nuraxi Anna may be called a twin Nuraghe. It is situated on a rocky slope, which overlooks

* The death of that gentleman has since been intimated to me.

a lone ocean bay, and is only a few hundred yards from its waters. On its landward side the rocks rise to a considerable height, and are bold and barren, and even at their base the soil is but a scanty sprinkling, serving only to nourish a rough herbage, among which herds of goats were picking up a livelihood.

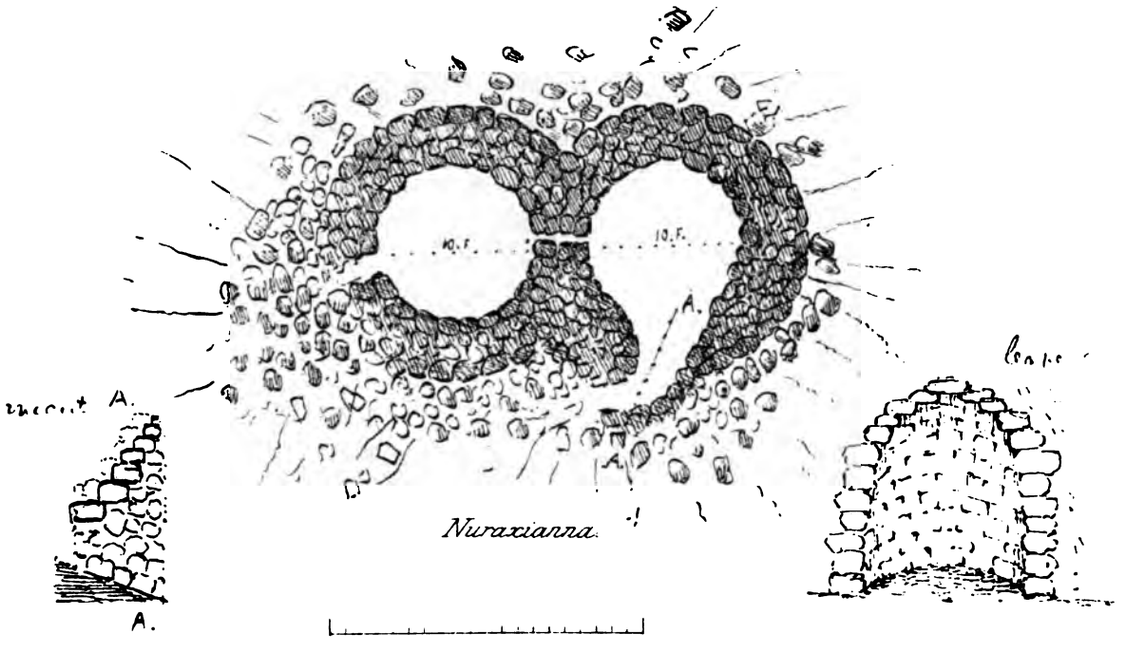
This Nuraghe is of the rudest Cyclopean workmanship. The walls of its twin towers are only 8 feet thick, and the greater part of them is formed of misshapen lumps of stones, about 3 feet by 2. There is very little of the outer walls that can now be seen, as they are buried in their own ruins.

In order to measure the chambers, we had first to climb the mass of *débris* to the top of the chambers, and there we found an orifice in both, by which we let down a line, which ascertained that their height is 16 feet. The roofs are formed by the usual lateral vaulting. Between them there is a neatly made narrow opening, or window, by which communication may have been made by tongue or hand, but in no other way. One of the chambers has a form of entrance which is very much in use among Nuraghi—*i.e.*, it is bent round the outer wall, and its shape is that of a comma. The entrance of the other chamber is a straight one, and the bent one had probably reached round to meet it. Evidently the structure had been destroyed by violence, for there is no trace of decay on its stones. The same may be said of almost all these buildings. Rather disappointing was this our first sight of a Nuraghe. There is nothing in it to compare with ours in Scotland.

The day declined, and now the two waggonettes set off for Cagliari. The road could scarcely have grown worse since morning, but our driving was certainly worse. Our Neapolitan elf had got enough of wine. The daylight had gone, and fearfully did we stagger on the way; but by the help of the light of the rising moon, we came by no tumble into a stream, though this often seemed to be our impending fate. Coming to one of the villages formerly mentioned, our friend of the other waggonette halted, and came to ask us to do the same. Why, we did not quite understand; but trustfully alighting, we were led to the house of the wealthiest peasant of the village, and the why then appeared, for our kind acquaintance wished to show us here a peasant's home and manner of life. The master of the house was asked to show our party his wife's "Festa" dresses and jewels. This he did in the most pleasant way, spreading out before us suits of the very richest silks, together with bracelets, rings, &c. This finery is usually hereditary, and is often in a family for some hundreds of years. The obliging peasant showed and gave to the writer some of the usual wedding bread. It is curiously done up, the dough being wrought in imitation of flowers. This house was brightly lighted up (though our visit was an unexpected one), and was almost handsomely furnished.

Instigated by the sight of these costumes, on another day I went to see "Festa" itself. On the occasion my party was again most politely accompanied by Signor Alberta Cara, who smoothed our way to this sight. The sun shone brightly, and the village assembly was large. The first meeting-place was in church—a very humble edifice. Rude and ugly were the pictures on its walls. Looking at these, and many others like them, one could not help thinking what a comfort it is that the Virgin Mary does not see her own likeness, and perhaps one may add, nor hear the prayers addressed to them. The church was well filled. No part of the service could be understood by these simple villagers, but they got Holy Water sprinkled on them, and the blessing of the Priest. This over, all the young men and maidens moved out to the dance. Their dresses were all in the costume of the country (said to be that of their Egyptian forefathers.) The females have over their head a gay coloured kerchief, and some of the wealthiest had instead, very long white lace veils thrown over the back; a jacket richly embroidered, very short in the waist, not so long as to meet the petticoat, but letting the white chemise be seen

Plate I.

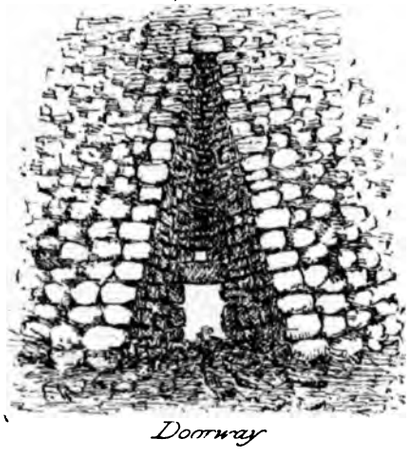


Nuraxianna.

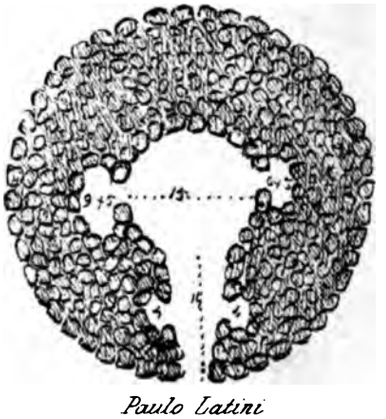
Section of Entrance A

Section of Chambers.

New Paulo Latini.

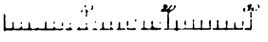


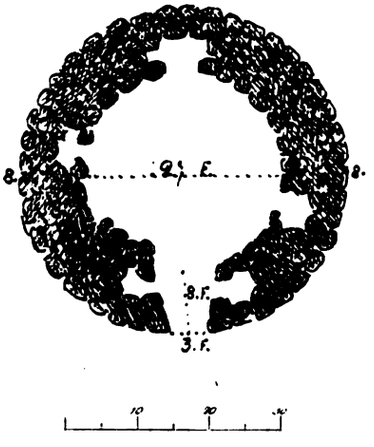
Doorway



Paulo Latini

The Scale applies to the Circle - but not to the doorway





Carbia.

in a gap between. The skirt is a short cumbersome thing, consisting of striped cloth of two colours, the favourite being scarlet and blue; the make is "kilt-plait" all round the petticoat, and the plaits run from the waist to the bottom in straight lines. These folds are invisibly fastened to a lining, so that they do not fall out of place even in the act of kneeling, as we saw them in church, and much pains the girls then took to adjust their dresses as they knelt on the floor. On their feet were boots with heels four inches high, and in these they danced. The muster place of the dancers was a misshapen sloping rocky piece of ground in the middle of the village; not a blade of grass upon it, for grassy lawn is not to be found in the Island. It was very soon crammed with intending dancers, all of them the youth of the village, for the married folk do not dance. So great was the crowd, that there was only standing-room; and long they stood without any action. At length one might perceive a sort of hobbling among the mass: this was caused by choosing partners for the dance. Then the feeble sound of the Italian bagpipe was dimly heard. Pressing their way through the crowd, the dancers formed in a ring. All the dance was but a shuffling of the feet of men and women, slow, slow, and no motion of hands, save to hold fast by the partner. There was no merry laugh, but they seemed happy; and, no doubt, many of the partnerships were for life. Returning from this glance at the Sardinians, we must again look at their Nuraghi.

Having been informed that the greatest number of the Nuraghi now remaining were in the neighbourhood of Paolo Latini, we arranged to set off for that place; and our party began to muster at the railway station, to start for Oristano, on our way thither. But one of the party being a very little too late, and the guard of the train being in a cross mood, he moved it off, and left us behind, to our no small disappointment. The weather was fine, and we resolved not to lose our day, or forego our purpose. At once it was determined to go in search of Nuraghi in another direction; and having some hours to spend before the train could suit, we returned to the Consulate at Cagliari, and, among other affairs, mentioned our misadventure of the morning and our plans for the afternoon. While in his office, the Consul, Signor Pernis, without a word spoken, sent a message asking the presence of two gentlemen: they came, and were introduced to us. Our love of Nuraghi being explained to them, one of these gentlemen, Signor Calvi, the proprietor of large estates, whose residence was quite near to the most famous of these antiquities, at once, in the kindest manner, invited our whole party to his mansion-house, and expressed his regret that he was not to be there himself, but assured us that he would immediately send a telegram to his housekeeper to have a carriage awaiting us at the station, and in every way to attend to our comfort while in his house, and provide facilities for our examining the Nuraghi. This appeared to us an incredible degree of kindness in an entire stranger, and at first we could not think of accepting it; but it seemed so sincerely urged, that we at last consented to avail ourselves of his generous hospitality—a hospitality which is the custom of this country, where hotels are unknown.

When train hour came, we repaired to the railway station, where we found Signor Calvi himself prepared to accompany our party to Domus Novus, his mansion-house. Having made all arrangements for our convenience, he next day left for Rome.

The famous Nuraghe Ortu we found to be little more than quarter of a mile distant from Domus Novus. It is situated in a very slightly elevated position, near the base of a chain of mountains. The elevation is a calcareous rock, and formerly the cluster of Nuraghi had covered the whole of the rocky mound; but now, of all the fifteen Nuraghi which were there in the time when De La Marmora wrote of them, there are only the fragments of six.

The drawings in the volume of De La Marmora would naturally lead one to conclude that

this cluster of Nuraghi stood on level ground; but it is not so, for these buildings are simply packed together on this little mound in any random way possible to the builders. All the chambers are small, and most rudely and unsystematically constructed. The central ones are so ill-shapen, as to be about as nearly square in form as circular; their walls, though strong, are not broad, eight feet being about the average thickness. If a section of the cluster had been made when the buildings were entire, it would greatly have resembled a cut of honeycomb whose cell walls were very thick.

It seems to have been the method of the people who planned these homes to make each circular chamber complete in itself, and to place them close together, founding all of them on the solid rock. This done, they surrounded the whole cluster with a strong wall, and then filled up all the vacant spaces between Nuraghe and Nuraghe, and between Nuraghe and surrounding wall, with stones pell-mell. And as these structures had no windows, the method suited well. This plan secured great strength: indeed, nothing could avail to destroy Nuraghi so combined except the removal of the whole mass of material; and in the instance of Ortu, and some others, this has, in a great degree, been done, and so done, that what now remains is little else than a confused heap of stones, over which one may ramble at will, and here and there from the summit peep down some dangerous hole, and find beneath, the dome of a Nuraghe. Outside of the central block of which we have been speaking, there had formerly stood a wall, surrounding the whole hillock at irregular distances, and fortified by a chain of small Nuraghi; but of these only two remain, and they are roofless ruins.

This whole mass of building gives one an idea of a people in a very rude state of the Arts of life, but, at the same time, in a combined and settled state of society. It is really almost impossible to describe this exceedingly confused cluster of buildings: I can only give a few notes. All the chambers are roofed with lateral vaulting, and are about 10 feet in diameter and 16 in height. The only entrance-way now remaining, from its bent form, seems to indicate that it led to the entrance of another Nuraghe, whose doorway is smothered in a heap of *débris*. It is in form like that at Nuraxi Anna, the roof of it also being vaulted. There is a misapprehenion on the part of antiquaries in this country regarding Nuraghi, they supposing them to be frequently reared on platforms of stone. This is not the case; for under careful examination I have found that each and all of them when in those combined masses, such as Ortu and Losa, are severally founded on the solid rock; and the platform appearance, as we have already described, is caused by filling up the interstices between one round tower and another, till the whole becomes a solid block.

There is another misapprehension regarding Sardinian Nuraghi, which is, that they are generally built in the combined form, as here and at Losa. Now, compared to the number of Nuraghi standing all over the country as solitary towers, these combined ones are very rare indeed. This was at once the result of my own observation, and it was confirmed by the more extended knowledge of Signor Alberta Cara of the University of Cagliari. Again, the masonry of the Nuraghi is generally spoken of as being of tooled stones. "Yes," and "No," might be said of this. To me it seemed as if all the shaping their stones have got might have been done by the stroke of one stone upon another. The neighbouring village of Domus Novus has no doubt shared in the spoils of this ancient fortification, and has risen by its ruin.

Having finished our examination of Ortu, by the kindness of Signor Calvi we had the pleasure of an excursion to a "Grotto"—we would call it a "Tunnel"—which penetrates a mountain. Through this he has made an excellent road which leads to his silver-mines, which the Romans had wrought 1600 years ago, but had so imperfectly smelted the ore, that

now much of it has been fused again with sufficient profit. The way to this grotto leads through a piece of grand mountain scenery. On all sides rise peaked cliffs; and in the depth of the glen is a cluster of ancient trees, finer than any I had observed in the Island, or in Italy itself, for the habit of burning wood has warred against venerable trees. The narrow path winds through many a twisting maze, and at last dives into the "Grotto." Our carriage and pair, with out-riders, entered in; and we found awaiting us torch-bearers, with faggots of sweet-scented wood, who went into all the finer side scenes of this noble cavern, and lighted up their magnificent stalactites as they hung from the roof, or were piled up from below in many a beautiful form. In several parts the roof is more than 100 feet in height, and the cavern about as much in breadth. It pierces the mountain for about half-a-mile in length. The whole is a natural rift in the limestone; and hence the multitudinous stalactites with which it is adorned.

Leaving the hospitable Domus Novus, we went on to Eglesias, thence to Cagliari, then northward 100 miles to Orestano. After taking a look at that old town, at which the railway terminates, we posted to the land of the Nuraghi, Paolo Latini. The first part of the way to it is through a level country, which has neither picturesqueness nor antiquarian interest; but as it begins to enter upon the elevated table-land on which Paolo Latini is situated, it had a share of both. In the distant view Nuraghi were here and there visible—lone, desolate towers scattered over a waste wilderness, unapproachable by any one. At last one of them was seen near the side of the highway, Carbia by name. It stands on the brow of a rock. At its base is a morass, through which more than one stream is meandering; but difficulties of hill and bog must be faced, for this is evidently a good specimen of its class. After no small disagreeable scrambling, the tower was reached, and the figure in Plate I. represents its ground-plan.

Its position and external aspect is almost the same as that of Oschino, represented in Plate II. The ground plan strongly resembles that of the Broch at Coldoch, Perthshire, Scotland, and that of many others. Both have walled chambers and the ascending stair in the wall. The wall of the Scottish one is, however, more than double the thickness of the Sardinian, and throughout all the country the same remark is applicable.

On arriving at Paolo Latini, it appeared that the coming of my party had been announced by telegram to Signor Cavaliere Antonio Atyon, Sindico of the district, who gave us the most cordial welcome to his house, and as there is no hotel there, we had thankfully to accept of his hospitality, and a very bountiful hospitality it proved. Having been informed of the object of my visit, he at once devoted his time to shewing the Nuraghi of the district. The village (perhaps there it passes for a town) is only two rows of very poor looking houses, with a church for centre. Almost within the bounds of the village there is one Nuraghe, and at a short distance from it another. The ground plans of both are given in Plate I. They had in their day been strong towers, broader in wall than many, and built of larger stones; not time but violence had wrought their ruin. The features of the Scottish Brochs are also here—*i.e.*, wall-chambers and wall-stairs. The roofs of both Nuraghi are awanting. Our excellent host, the Sindico of Paolo Latini, having selected Oschino as a Nuraghe well worthy of examination, planned and equipped a party for that purpose, providing a guide who knew every foot-fall of the whole district, its highways and by-ways, being no other than one of its "Guardia."

As we pursued our devious way, the Sindico sometimes a little doubted the accuracy of his knowledge of these unfrequented ways, but experience proved "Guardia" to be always right, his only difficulty being to know if his train would be able to follow his lead; and at times when this doubt came across his mind, he made the said train to halt till he went on to test the

possibilities of the case. Rough and thorny was the way. Every step was from one rude stone to another, the country being a wide-spread table-land which is thickly strewn with boulders of all sorts and sizes, and also covered with the most impenetrable jungle, in the midst of which the Nuraghi stand.

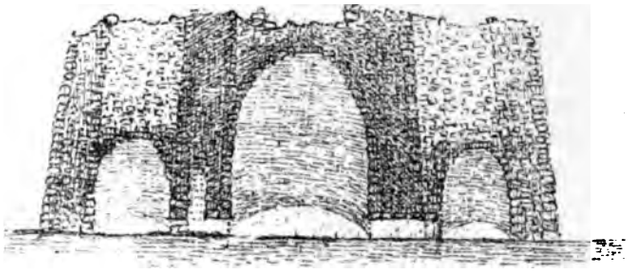
One of these lay on the right hand of our path to Oschino. It is called Arbiddera. Like many others it is now a truncated cone. The track leading to Oschino has a long and gentle ascent, which ended in a precipice, on the brow of which the Nuraghe is situated. On the precipitous side the ascent had been impossible. The tower has a very imposing appearance. Much of its masonry is intact, and its height cannot be less than 37 feet, and probably is more, but as its stair is in ruins we could not ascend to measure it from above. On attempting to do so "Guardia" pulled us back in a very determined manner. Notwithstanding this, the data is pretty correct, for on measuring the height of the interior chamber it was found to be 27 feet, and above that chamber there are the remains of another, which is at least 10 feet in height, to which may be added some 2 or 3 feet of intervening masonry. Both these chambers have vaulted roofs.

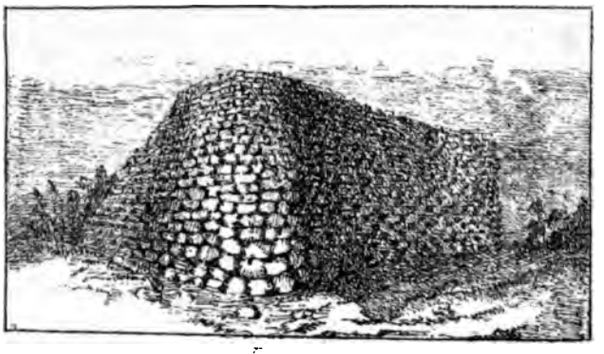
Tradition says there was a third chamber above the second; but of it naught but tradition remains. Tradition further affirms that from the apex of the lofty vault there hung an iron hook, from which there was wont to be suspended a lamp to light up the chamber. How often is a little enlightenment fatal to tradition? This one was fated to perish before that of a penny candle! for, by tying one rod to another, the Sindico mounted a candle to the utmost summit, and examined it, and all the vault round, and found that no hook had ever been there. The entrance of light does not seem to have been greatly courted in the most ancient buildings of any land. It is by reasoning from this peculiarity, so opposed to the ideal of our own times, that it is come to be a habit with many Scottish antiquaries to conclude that all such like dark chambers were intended for the dead. Happily Sardinian antiquaries have reasoned far otherwise; and dark though all the Nuraghi be, they believe and know that they were the homes of the living. This lofty chamber has one small window, about a foot square. It is placed right over the door, less with the view of admitting light than of admitting knowledge of who it was that might be seeking admission.* This orifice is found in the greater part of the Nuraghi, and, strange to say, is an arrangement attended to in the modern Italian houses. But the reconnoitring window is now placed at the sides of the doors.

Another similarity in the structure of the Scottish and Sardinian towers lies in the form of the lintels and side-posts of the doors. They are formed like those of our Brochs and Yird Houses, so that the door is shut up against them from within, and could not possibly be so from without.

From these circumstances Sardinian antiquaries have most naturally concluded that their towers were by their builders designed for the dwelling of the living. Yet, strange to say, our Scottish antiquaries can look at the numerous buildings of their own land, whose doors are *exactly similar*, and yet they do not recognise the force of this argument, but continue to characterise every dark chamber as a tomb. Seeing that so very different conclusions are formed from the same premises, it may not be amiss for a moment to look into what really were the circumstances of the earlier races who designed these buildings in Sardinia, Scotland, and Brittany. If we take it for granted, for a moment, that living men dwelt in the buildings of which we are speaking, let us look at

* As our object is to institute comparison, we would here call attention to the fact that the door of the chambers of our own Maeshow has a similar provision made for the same reconnoitring purposes. This has been obtained there by simply making the great stone door too short to reach the top of the entrance-way, leaving sufficient space for the above purpose.





Tosa

Tosa (in Section)

Oschino

Oschino (in Section)

the nature of their occupations, and see if the light of such would befit them. To eat and to sleep were really their sole home occupations: perhaps we may add to these, to sew together the skins of wild beasts for clothing. But surely little light would suffice for these. The chief thing required in a dwelling-place for those rude and warlike times was a place of defence or of shelter from enemies. For these purposes the fewer holes in the walls the better. The abundance of light which we require for reading, writing, and the thousand intellectual employments of our times, was undreamt of in those days; and the light in the mind and the light in the house are things of another age. Again, let us consider what a window in those ancient times must necessarily have been. Certainly it must have been a hole, which would let in at once light, wind, and rain. If any one objected to cold or wet, these could only be shut out by a wooden board: in which case, they might as well be without their window, and keep their walls sound and strong. It almost amounts to a rule, that the more ancient the human dwelling is the fewer windows will be found in its walls. This will appear more distinctly if we class them thus—1st, The Dolmen of Brittany, and its fellows the Yird-house and Dolmen of Scotland; 2nd, The further development of the Nuraghi of Sardinia, the Talyote of the Baleric Islands, and the Brochs of Scotland; 3rd, The oldest Baronial Towers, such as Brunless in England or Old Wick Castle in Caithness-shire. In the latter there is an adherence to the no-window habit; in the former are a few of those orifices, but these are small, and placed near the top of the building, above the reach of foes, and not very useful for lighting the house. After the introduction of the use of glass, gradually the windows are enlarged, and the process is going on still. In the beginning of the sixteenth century light was admitted to dwellings through wooden lattice-work: houses of the higher classes had horn lights. The manufacture of glass was introduced into this country in 1557. In 1567 the glass of the windows of Alnwick Castle was wont to be taken down and put into safety when the Earl of Northumberland was from home, and when he returned it was set up again. This much about windows.

Oschino is, or rather has been, surrounded by a second wall, but very little of it now remains. In this feature also it resembles its Scottish confreres.

The next demand that was made on "Guardia" was to help the antiquary down over the lofty precipice on which Nuraghi Oschino stands, and away to the other side of the lone glen, that a sketch of the tower and its environs might be done. The descent was declared to be impossible; but the will and the way had to be got by the aid of our faithful "Guardia." The result of much persuasion was that he set himself seriously to fight with the sword against a long array of arboric enemies; and at last the impossible was defeated, and we reached the bottom of the deep ravine. Paper and pencil were prepared, and the point of view selected. The day was one of the brightest sunshine, and the glare was distressing to the sketcher. "Guardia" had under his charge the crimson umbrella of the good Sindico, and he was requested to put it up, to shade the artist. He made the attempt again and again, but failed. Forthwith sprung up from beneath a bush a small urchin, whose presence had hitherto been unobserved, and, being an instructed youth, he saw into the mystery of rearing the umbrella. The spreading shade was thus obtained, and the pencil did its work. The shade was no longer needed, and the umbrella was ordered to be put down; but this requirement was again beyond the skill of "Guardia," and the more learned youngster had to show the way. On this amusing incident being reported to the Sindico, he said he believed the "Guardia" had never before had an umbrella in his hand, as that article is a very rare one in Paolo Latini lands.

After a brisk walk over a sort of continuous

cairn, we rejoined the other members of the Nuraghi exploration party, and found that they were transforming themselves into a pic-nic party of a novel kind. They were squatted in the wilderness beside a shepherd and his flock. The Sindico had purchased from him a lamb, which was speedily killed and neatly spitted. Sticks were gathered, a great fire kindled; and after it had burnt to charcoal, "Guardia" was chosen cook. Meanwhile our kind entertainer despatched a horseman to his home for bread, wine, and many other etceteras. At a little fountain was a party of peasants making cheese; and it was pleasant to observe that, most rude as were all their implements, there was much care taken to have them clean. Their little tubs were simply cuts of trees hollowed out, and the pressing of the curd was done with the hand alone. Probably they only purposed to make the soft cheese which is popular in the country. The sheepskin dresses of those men gave them a somewhat wild look, but to us they were courteous enough; and a small gift of "lire" was cause of boundless gratitude.

On our returning walk we visited the remains of a Nuraghe of much larger dimensions than any we had hitherto seen (its name is Cuada), its diameter over walls being 60 feet. It is a thorough ruin; and much of its material has been removed, perhaps to aid in the construction of a small flour mill close by. About two miles from Paolo Latini, on the great north road to Sassari is a notable Nuraghe, or rather a cluster of them, contained within a huge triangular wall of well-ordered masonry. There is a Nuraghe at each of the angles, and the corners take the course of their circle. A fourth Nuraghe is situated in the middle of the triangle. It is the chief one of this fortalice, and has had at least two vaulted chambers, one above another, and most probably a third. Of the second one there are traces; the third is only conjectural. The other three Nuraghi at the corners of the angles appear also to have had second storey chambers. All these Nuraghi are swept off at the existing level of the top of the enclosing wall, which is 30 feet in height. There are outlines of circular chambers visible, right over where the different Nuraghi are situated. On the solid mass of this ruin it is impossible to do more than make surface observation: indeed, the kind Sindico was quite afraid to let us go within the chambers of Losa, as the peasants had been digging in them in hope of finding treasure, and had made many parts of the structure most unsafe. Let it be understood that, like as it is at Ortu, so here, all the spaces within the triangular wall which are not occupied by the four Nuraghi are filled up with stones pell-mell. Around this fortalice there had been, at a little distance from its wall, another wall, and on it stood formerly many Nuraghi; but of these only two remain, and about 130 feet of their connecting wall. Right opposite the door of the central tower we observed the foundation of another of the lost Nuraghi. The chamber of the central tower is 16 feet in diameter, and the other three chambers are probably about 10 feet; but such is the state of ruin of the passage leading to them that they cannot be measured from within, but external measurement indicates the above. Of the central tower the ascending stair still remains for 35 feet. It is a very difficult thing to climb, but I did it. The sort of spiral stairs indicated in the picture of De La Marmora is most incorrect; for the sweep of a fourth-part of the circumference of a Nuraghi is sufficient to land the stair at the second floor. The stairs are very narrow and steep, and much more rudely constructed than those of our Scottish Brochs. It may be easily seen that they are very narrow indeed, as the walls themselves are only 8 feet broad.

Believing that I had now seen a sufficient number and variety of Nuraghi to enable me to form just conclusions as to their nature, I prepared to leave the Paolo Latini country, and return to Cagliari. But this was not to be so easily done as it had been to come to it; for here there were no conveyances to hire. The

only means of getting back to Oristano was found to be by the diligence which daily passed through Paolo Latini on the way from Sassari to that town and railway terminus. It was unfortunately day after day too full to admit of our party of four. At length, by the effort and kind persuasion of the hospitable Sindico, three of us got squeezed into the miserable, cranky conveyance, the fourth having determined to follow on horseback. Under this arrangement an illustrative incident came to our knowledge. A few hours after we left, there came to the door of the Sindico a peasant, who had walked from a distant part of the country, his sole and earnest desire being to see the lady who had been seen wandering among the Nuraghi, as he believed she had wonderful powers, and would be able to cure him of epilepsy, with which he was sorely afflicted. Sorcery is in these parts more believed in than antiquarianism.

On arriving at Cagliari, I was kindly invited by the Antiquarian Society to join them in an excavation party which was about to go to work on interesting ground. I greatly felt the value of the invitation; but my plans did not admit of longer stay on the Island. Storms on the Mediterranean were foretold, in order to induce delay; but they had to be risked in the good Naples weekly steamer. The politeness of the Sardinian Antiquarian Society is mentioned in striking contrast to our doings in Scotland.

From the venerable British Consul, Signor Perins (then in his 80th year), I received every attention; and he was so careful of our safety as even to take boat, and see us all right on to the steamer. When purposing to visit this Island, friends spoke with fear of cut-throats and other ills; but how different was our experience among these lands.

The predicted storm came indeed, but not until the steamer was safe at Naples.

II.—BRITTANY.

NOTES ON ITS PREHISTORIC ANTIQUITIES.

IT appears to be quite necessary to the right—or even the proximately right—understanding of the Megalithic antiquities of the district of Morbihan—more so even than in the case of other countries—that those who set themselves to enquire concerning them, should begin by taking a survey of the country itself. In this belief, therefore, I shall attempt to describe it.

The great distinctive feature of the country around Carnac, and all along the south-western coast of Brittany, is, that it is a flat land—a wide-spread granite rock, into which the waves of the Atlantic Ocean have worn many far-injected channels, particularly in places where its stormy waters have been aided by the erosion of rivers hastening on to join them. Between these channels, here and there are gentle sloping eminences, but nothing worthy of being called a hill. Over this rocky table-land there has gathered a very thin soil, composed of sand drifted from the sea-shore, and of decomposed granite. There needs not now be taken note of anything save the surface stratum, as it is with it alone that I have to do when speaking of the Megalithic remains of man's handiwork.

Looking at these two facts—the poverty of the soil, and the nearness of these remains to the sea—it seems natural to conclude that the people who erected its many stone structures must have been sea-going folks, as only by fishing or piracy could they have found food for an evidently considerable and combined population. Among such "floating" ones we might expect to find in other countries traces of similar structural remains, and such similarities it will be easy in these notes to point out, and that in positions where the same conditions for the supply of human wants are to be found.

It is chiefly on the sunny sides of these gentle slopes that the mystic lines of great stones called "Avenues" are to be seen. None are distant from the sea. It is generally believed that because granite is very hard, it is therefore slow of weathering; but it is not so capable of resisting the elements as is supposed, and whether its decomposition be slow or rapid, it does break up under their influence. On carefully noting the manner of its natural disruption, it will be seen that its rifted fragments, as they crop up over the uncultivated parts of the land, assume almost exactly the form of the stones which are now seen standing in Dolmens and in Avenues scattered over the whole district of Morbihan. If, then, looking at these disintegrated masses as the building material out of which a people of rude ideas and strong limbs had a mind to construct houses for the dead, or for the living, we at once see that with their simple tools it were really easier far for them to make use of the great blocks of stone, as nature brought them to hand, than to split up this adamantine rock into small pieces; and I think that we must accept of these as the conditions that met the eyes and the hands of the men who set up the Dolmens and Avenues which have now become the antiquities of the country.

There has next to be considered what were the probable aspects and purposes of those structures of which these hoar stones formed a part. And in doing so, I shall not at this stage enquire whether they now remain to tell us the

story of the tombs, or of the homes of men. This last question may perhaps best answer itself as their case comes to be more fully disclosed in various places and various aspects.

The prehistoric edifices of Brittany come before us under many names, and I think it well on this point to quote the following from the "Statisque Historique," Administratif du Department du Morbihan, par Alf. La Lomand, Vannes, 1853, page 115, where the writer raises the question, "What are Dolmens?" "*Allées couverts, grottes aux fees, Kistvean,*" &c. And answers it by affirming that he intends to prove that these names all belong to the same class. Having offered proof, he then goes on to show that the word "Dolmen" is formed by two Breton words: "Daul," which signifies a table, and "Mein," which signifies a stone. After this, he asks the question, "Is the use of the Dolmen *interior* or *exterior?*" In reply, he argues that it is interior, and takes a rational look at the Dolmens as they stand, stating the facts that the table-stones are generally, on their upper surfaces, ill shapen and vastly knobby, while the under surfaces are much smoother and more regular. Again, these tables are supported on four, five, six, or more pillar-stones, and these supports have their roughest sides to the external, and their smoothest to the interior. Certainly, if any one were erecting a table to be viewed from without, the reverse of all this would be the case. He also remarks that in many instances the so-called "supports" do not uphold the so-called "table," instancing *la table des Marchands* at Loc Maria Ker. He further argues against the table imagination that this and very many other Dolmens are even yet covered, more or less completely, by mounds of earth and stones. He particularly mentions that the Dolmen at Plouharnel, which has just been dug clear of all covering mound, was buried to the top of the table in 1847. He then proceeds to enquire why it is that there is always an entrance to the space below the so-called "table." Of this fact there can be no doubt, and this entrance was almost always an alley leading up to it, composed of two walls of great stones. This author observes also that the so-called "supports" of the "tables" frequently do not even touch the superincumbent table, and that many of them are so sharply pointed where they do touch their tables, that they afford a very doubtful and nicely balanced prop. He draws no inference from this peculiarity of construction, which certainly ought to be accounted for by any one treating of Dolmens. Neither does he try to show how the men of those days raised the "tables." This, I think, is not difficult to be done, and shall attempt to do so in another place.

Mr Lukis, in his most useful "Guide to the Chambered Barrows, &c., of South Brittany," seems to hold the same opinion as the above writer, and mentions many instances in which the covering mounds of Dolmens remain in a more or less entire state, and further argues that there is no such thing as a free-standing Dolmen. All those mentioned by him have been seen by me, and, together with other appearances and circumstances, induced the belief that all Dolmens had originally been covered; one of these circumstances being "the nature of things." Everywhere there is a belief expressed that in some relative proportion to the height of a menhir, or stone support of a Dolmen, must be the size of a part supposed to be sunk in the ground. Now, this is a thorough mistake, for, in truth, none of all the multitude here is so founded. The same belief prevails in Scotland in regard to Scottish ones, and is equally false. No doubt this fact adds vastly to the difficulty of accounting for the up-raising of such ponderous masses as are the cope-stones of Dolmens. But our antiquaries must suit their theories to this fact, which is one that cannot be disputed, as the whole of them stand as nine-pins on a board.

The remains of these structures are to be found in all stages of decay, and it is according to the present appearance of these wrecks of time that the peasants have assigned to them names, and it does seem passing strange that

men of learning should affix the smallest importance to any of these.

Time has not been the only "wrecker" whose hand has stricken these ponderous buildings. Everywhere, and that for long ages, the hand of man has been busily at work upon them. Generally that work has been finally to remove the material for his own uses; but sometimes he has also transposed them, modifying the structures, so as to suit himself or his cattle, and also at the same time making them still more puzzling to antiquarian brains. If we look at their walls (including their covering mounds), they are strength itself; and if at their roofs, these are, as it were, an everlasting seal set down upon their walls. But as if all these "munitions of rocks" were not yet sufficient, the whole had been covered with heaps of smaller stones, more or less systematically arranged. Some are of opinion that these covering heaps were sometimes formed chiefly of earth, or rather sand; but as, in most instances, man has taken the stones to himself, and the winds and rains have taken the sand, it is not possible very accurately to speak of the kind or degree of the outer covering heap, mound, or cairn, whichever we may choose to term it.

The Dolmens of Brittany nowhere have large chambers: a square of 8 or 9 feet is about their average size, and the entrance galleries conducting to these chambers average from 20 to 30 feet in length (a few of them attain to 50 feet); but in all, the width is the same—*i.e.*, 2½ to 3 feet. Some of the more entire of these structures show that while the walls of both chambers and galleries are chiefly composed of stones of great size, generally *very* great, the gaps which occur where stone does not quite fit into stone, are filled up with a masonry of small stones, and these shaped and neatly fitted in. The chamber of Kercado Dolmen is an instance of this kind of workmanship (see Plate III.)

Perhaps the general use of the square form of the chamber of Dolmens in this land has its cause in the great size of the stones which fence them in, for it seems almost natural to arrange them in that shape, just as in the instance of the chamber of Maes-how, in Orkney, where the great length of the stones appear to have induced the same form, though the more common one in Scotland is the round. Only in the north have I observed the square. Be this as it may, we see that in Morbihan the builders almost invariably adhere to this form; but in Plate IV. there is an instance of one (No. 3) formed exactly like many of the Picts' houses in Scotland,* and there are others still more similar. In both countries, the innermost end of the building is always the one highest in roof, and it becomes lower towards the door. The chief object with savage man seems always to have been to have his door easy of defence, and here they certainly were so. In both countries, the finest stones of each chamber are the one or ones that form the centres of the walls which face parties on entering, and these chief stones are generally the ones on which sculpturings are found.

At Kercado (Plate III.) is found a Dolmen in a comparatively entire condition; but near it are the wrecks of many now so dismembered, that but for previous knowledge of the native type of many such erections, one could not have recognised in those scattered fragments the remains of the true Dolmens. But thoroughly knowing the type, we can feel certain of having in these, members of the species; and as surely as a Cuvier, from possessing one bone of an animal, reconstructed the whole creature, so human intelligence, directed in another line, may, with fair assurance, reconstruct from fragments the the ruined buildings of the same countries and the same ages, and calling in the aid of the better preserved Dolmens, may succeed in restoring sinews and flesh to the bones of even the vast alignments of Morbihan.

The Dolmen at Kercado is strong and entire,

* And in the Round-Houses of Caithness. Compare these with the chambers of "Table aux Marchands."

Plate III

Loc Mariaker

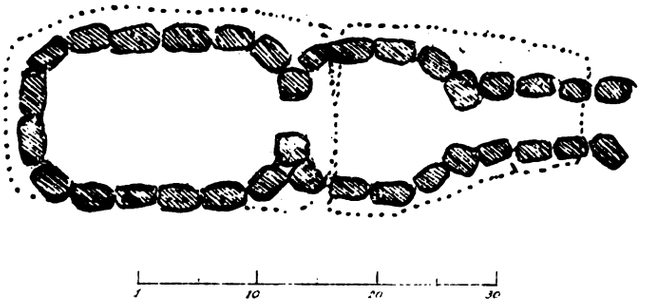
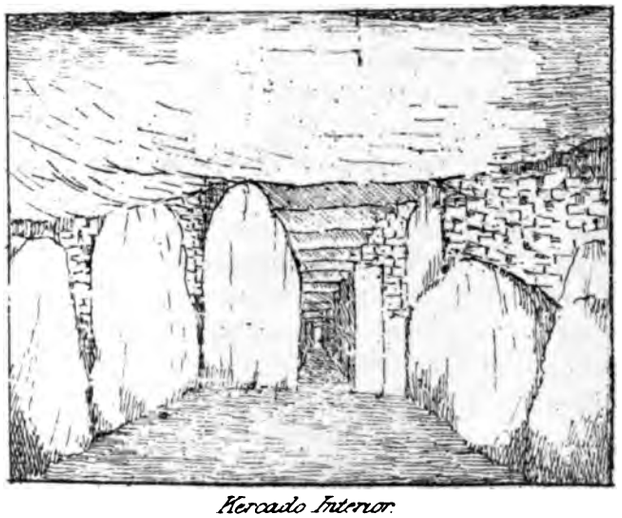
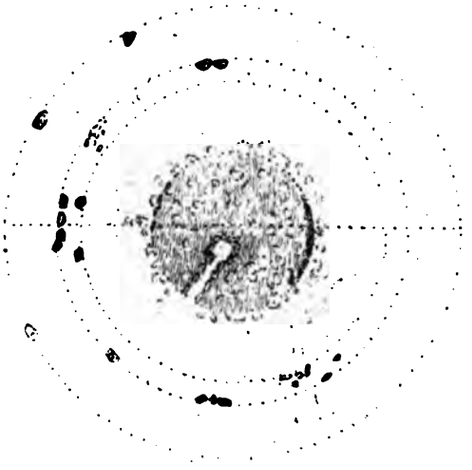


Table aux Marchands



Kercado Interior



Plan Kercado

as when it was first built. Of chamber and of "allée couverte," not a stone is shaken. Its roof is of one most ponderous stone. Around all is a well-built circular mass or tower of stone, presenting a good external elevation. Several of the interior wall-stones of the chamber are 7 feet high by 4½ feet broad; intervening spaces between these are filled up with masonry, well laid with small stones. Looking at this wall from within the chamber, as I did, a moment's consideration would make any one conclude that, unaided, they could not support the huge roof-stone, and but for the covering mound, the whole must, even now, fall to pieces. That mound, fortunately, as above-mentioned, is still entire, and is a circular tower of stone 60 feet in diameter, and is still about 12 feet in height, though undoubtedly it had formerly been much higher. Close by it, is a handsome modern chateau, with singularly lofty garden walls attached, and the erection of these had much to do with the depression of the primitive edifice. The proprietor admits this fact, but, happily, now carefully guards all that remains of this ancient structure. Would there be no chambers in that upper portion of the building which has been removed? If this were not the case, it would be difficult to assign a reason for its great size and strength, or even for the general importance which has belonged to the place, for there are distinct traces of the former existence of two concentrically circular walls surrounding it, the first about 30 feet, and the second about 20 feet beyond it, outside of the wall of the central building or tower, whose only chamber is but 9 feet square!

Of the multitude of Dolmens which I have sketched, I never saw so much as one whose construction suggested a doubt that it was other than a well-built chamber, or that the double line of stones attached to most of them was anything else than the two sides of their entrance galleries. I give a sketch of the Dolmen Courconno, where we have an instance in which the covering mound has been entirely removed, and also the entrance gallery; but both of these changes were wrought for the benefit of the adjoining farm-house, on which it almost leans, and serves as a useful stable. Quite lately it was a human dwelling. A short time ago it had a covering mound.

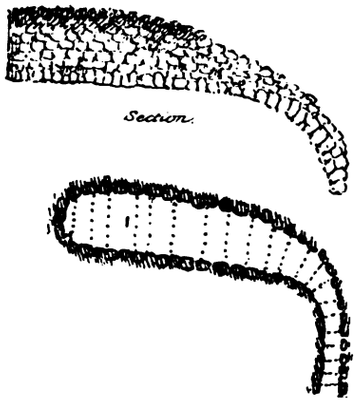
Grotte de Grionac is near the village of Kerhiaval. There we find three Dolmens which had all been under the covering of one mound, and still they are partly buried in its remains. Two of these chambers, with their entrances, lie parellel to each other, and between these, and at right angles to them, is placed the third of the group. The space occupied by these three Dolmens is 72 feet.

At Roche-Guyon (Plate IV.) there are other three Dolmens covered by *one continuous mound.* Does not its appearance afford a hint that possibly the stones comprising what we term "Avenues" may simply represent the last surviving fragments of *some such continuous rows of Dolmens*, but on a very extended scale? French authors frequently affirm that the now detached stones of "Avenues" were formerly *continuous rows.* May not these Dolmens have been parts of the rows? This conjecture cannot be thought more foolish than several that have been sported as to the meaning of these silent stones. It will be seen that the Guyon group has one of its number whose roof is formed by lateral vaulting, and is in all respects like our Picts and Caithness "Houes;" but ours are greatly larger. Ker-Roh is an example of the so-called Demi-Dolmen. It is really no other than one more thoroughly ruined than its fellows. It stands on a rocky slope, and has also been one of a group of three.* Moustoir is another that has part of its covering mound remaining: its stones are very large. At Kermario is another similarly circumstanced. Many more instances of the same kind might be quoted; but these may suffice to show the high probability that the free-standing Dolmens are an unknown quantity.

The neighbourhood of Loc-Maria-Ker is the

* These are quite near the sea-shore, where there still exists a fishing village. Query, Were not the Dolmens fishermen's homes?

haunt of the largest of the remaining Dolmens. The sketch on Plate III. gives the ground-plan and drawing of two of these. Let us first look at Table aux Marchands. It has a huge copestone, 36 feet in length and 13 in breadth, which has sustained a fracture, splitting it across its centre; but the two pieces so obviously and perfectly fit to each other as to leave no doubt of their former oneness. This stone forms the roof of the two chambers, and also part of the entrance gallery. The following are their measurements: the inner chamber is 19 feet by 9; the outer one is 9 feet by 8. The supporting walls are quite like those of smaller Dolmens. And here there are also remains of the covering mound. This Dolmen is quite near the famous and grand Loc-Maria-Ker stone, which is 68 feet in length, and its greatest breadth is 14 feet. Like its neighbour, it too is broken right across, but in this instance in four pieces, each exactly fitting to other. One, however, and that the largest piece, is by some strange and vast force thrown to a distance from the other parts, and also turned over on one side. Still, piece so corresponds to piece, that at once we see that all the four parts had formed one great whole. There is a popular, and even an antiquarian belief, that time was when this huge monolith had stood on end. Mon. J. Mahé, in his essay on the "Antiquities of Morbihan," 1835, page 283, in speaking of Loc-Maria-Ker, uses these words: "Cet obeliske monolithe est aujourd'hui brisé en quatre fragments et comme il se pu se rompre qu-'on comblant, on peut regarder comme certain qu'il a été autrefois debut?" Now if this is the only reason for believing that the great Loc-Maria-Ker stone once stood erect, we may say that that one has but a feather's weight against those which go to disprove it on this point. 1st, After a careful search I have failed to find any one author who says that he has seen it so standing, or even that he had seen some one who had seen it. The fact that the *cause* of its being broken is only subject of conjecture goes somewhat towards proving that the upright position is also but conjecture. The want of such direct testimony is a strong argument against a thing in itself so improbable in other respects. 2nd, The shape of the stone itself tells against the possibility of its being set on end, for it is pointed at both of its extremities. This difficulty, it is true, might be overcome were the stone sunk deep enough in the ground. But here a still greater difficulty occurs, for beneath it there is only the granite rock; and behind this there is yet another difficulty, for if by some means it had been possible to the early people to make a hole in the rock sufficient for the purpose of sinking this obelisk, it would have required a cavity of triangular form, and more than 14 feet on all sides. And of the depth, what shall we say? Surely, if such a pit had ever been quarried, there would still remain ample traces of it. Nothing of this kind remains; but, on the contrary, this stone lies extended on a rocky elevation. 3rd, In addition to all these circumstances, we ought to consider the mechanical skill requisite for raising erect so huge a mass; and when we do so, it is difficult to believe that the men of those early ages were possessed of it. And without direct testimony that it really was an accomplished fact, why force ourselves to a belief under so many difficulties, not to say contrarieties, to "the nature of things?" 4th, There is yet another thing to be noted, and that is, that it does not appear to have been the ordinary use to which great stones were put in that age and in this district of country. All the other greatest stones here appear to have formed cap-stones of Dolmens. And close beside this antiquarian puzzle I apprehend there lies the key to open its mystery: I allude to the already-mentioned Dolmen, "Table aux Marchands," which is 35 feet in length. Why then not suppose that the Loc-Maria-Ker stone is just a still larger Table stone? and this would simply be attributing to it a purpose in accordance with that of all the great stones around. Many of these are truly great, as, for instance, that of Cæsar's Table, which is a striking object in the same scenery. Both



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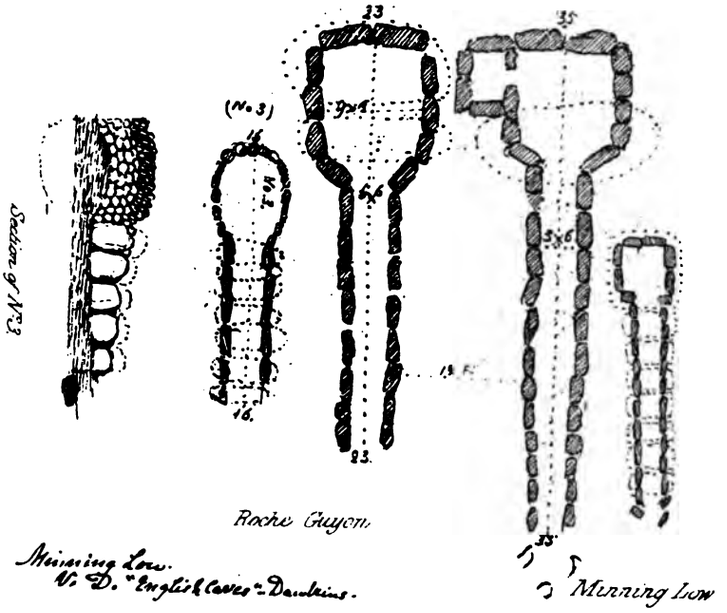
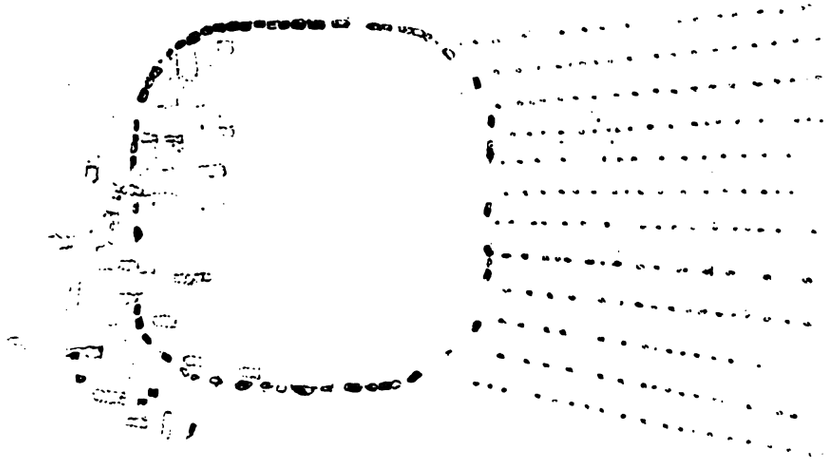


Roche Guyon.

Mining Low.
N. D. "English Caves" Davidson.

Mining Low



Menec.

(Loc-Maria-Ker and Table aux Marchands) are violently split; and the same effects in both should be traced to the same cause when endeavouring to account for the singular manner in which the great Loc-Maria-Ker stone is broken into four pieces. A fall from an upright position could not have done it, even though it had been cast down by lightning. So far as instances of destruction by the electric fluid have come under my observation, its action is to split the object stricken from top to bottom, and to rend the ground below. Nor would a lightning stroke account for the casting to a distance of the largest portion of the stone.

With the view of affording more satisfactory data as to what must have been the original position, and explaining the now singular aspect of the Loc-Maria-Ker stone, than could be supplied by any arguments of mine, I submitted the two following questions regarding them to a gentleman, who, from scientific and practical knowledge, is eminently qualified to give an authoritative opinion—Charles Randolph, Esq., one of the chief engineers in Glasgow. The questions submitted to him were—

"Do you believe that the great Loc-Maria-Ker stone ever stood on its end?" And the second was—

"What do you think is the most probable cause of the destruction and displacement of the parts of this stone?"

To the first of these questions his reply was decided, that to place it in an erect position was simply *impossible.* And to the second question he states in answer, neither gunpowder nor dynamite could be so applied as to produce the effect now visible; but that the simple application of heat, under certain circumstances, would be quite sufficient to achieve both the disruption and displacement. He illustrated this by citing the familiar fact, showing the explosive power of mere heat, that when among the coals placed on a fire there is a stone, how in a little while after feeling the heat it leaps at a bound to the most distant part of the room, the cause of this frequent domestic annoyance being that the heat applied to the surface of a hard stone, being unable to reach its centre, produces a tension, which results in an explosion so violent, that he, the chairman of the Dynamite Company of Glasgow, affirms that even that strong explosive has no force equal to it. He further added that if the stone in question, as it lay on the ground (and more particularly as it lies on granite rock), chanced to have under it a hollow in which a fire could be kindled, the external heat and the cold in the centre of the huge stone would certainly produce a tension resulting in explosion.

We are aware that the early races knew and were in the habit of using this power for splitting great stones; and in some parts of Scotland it is in use at the present day. Under the supposition that the Loc-Maria-Ker great stone had been disrupted through an explosion caused by the action of heat applied below it while in a prostrate position, let the effects of such a force on the whole bulk be fairly considered. The centre of the explosive power must have been at the point where the largest portion has been torn off, and the force that did that had necessarily raised the *whole stone* to a considerable degree; and it is on its again falling down on the rock that the three fractures have been made. Such seems a probable account of the whole matter. If this great mass had formerly been the roof of a Dolmen or "Table," such as Table aux Marchands, the side walls must have been made by what masons call "under pinning," that is, by first hoisting one side of a stone and under-building it, and then doing the same by the other side. Lever power could accomplish this by the rudest hands; and in some such way has Table aux Marchands been made a Dolmen.

There now remains to be considered the question whether Dolmens have originally been intended by their builders to be houses for the living or dead. That they should have been human dwelling-places is so unconformable with our ideas of comfort, that we perhaps too readily dismiss the supposition as an im-

possibility. Their want of daylight and ventilation speak against it; but there are standing facts which may help to a true conclusion. Dolmens are really and simply artificial caves;* and we know that these were the abodes of men in the earliest ages. From the days of Lot, and down to more civilised times, these seem to have been considered to be even a luxury as dwellings in the hot season.

In Bengal, some years ago, a relative of mine, disliking the huts which his dependents were living in, which had neither window nor chimney, built a number of houses for them which had these conveniences; but he could induce no one to inhabit them. Our own Brochs have them not; neither have the Sardinian Nuraghi. If we are disinclined to think, after all these instances of a love of the dark and ill-ventilated in human dwellings, that still the Dolmens could not be of the number, there may yet be added to these a description of an undoubted human home in the Island of St Kilda, where the natives have long ceased to be savage. The following was read at the monthly meeting of the Society of Antiquaries of Scotland, April 1877:—

The first paper read was a notice of the antiquities of St Kilda, by Mr Sands, Ormiston. He first described an underground house which he had opened and examined. It was first discovered thirty-two years ago, but was then covered up without full examination. When cleared out, it was found to be 25 feet long, by 3 feet 8 inches wide, and 4 feet high, the walls of rude masonry built of large stones, and the roof made of flags stretching from wall to wall. On one side there was a "croopa," or bed-place, in the wall. The floor was covered with peat ashes and soot to the depth of a foot; and mingled with these was a large quantity of limpet shells bearing the mark of fire; bones of sheep, cattle, and sea-fowl; rudely fashioned implements of stone, and fragments of coarse pottery. The floor of the house was laid with flat stones. There was a drain underneath.

Extract from Letter by Miss Anne Kennedy, addressed to Capt. F. W. L. Thomas, R.N.

"Coll and his brother used to war with each other. Coll resided in the Dun (?), and Archibald in a large house built under ground in Boreray. The house is called "Tigh-a-Stalair," after the name of him who built it. It was built of stone pillars with hewn stones (?), which, it was thought, were brought from the point of the Dun. It was round inside, with the ends of long narrow stones sticking through the wall round about, on which clothes might be hung. There were six croops or beds in the wall, one of them very large, called "Rastalla." It would accommodate twenty men or more to sleep in. Next to that was another, called Ralighe, which was large, but rather less than the first. Next to that were Beram and Shimidaran, lesser than Ralighe; and they would accommodate twelve men each to sleep in. Next to that was Leaba Nam Con, or the dogs' bed; and next to that was Leaba an Tealisch, or the fireside bed. There was an entrance (passage) within the wall round about, by which they might go from one croop to another without coming into the central chamber. The house was not to be noticed outside except by a small hole on the top of it, to allow the smoke to get out, and to let in some light. There was a doorway on one side (where they had to bend to get in and out) facing the sea, and a large hill of ashes a little way from the door, which would not allow the wind to come in. Bar Righ was the name of the door. The present inhabitants of St Kilda, when in Boreray, following or hunting sheep to pull the wool off them, which is their custom instead of shearing them, used to live in the house until twenty years ago, when the roof fell in. Some of the croops are partly to be seen yet (1862). Tigh-a-Stalair should be carefully planned. It is most important archæologically as being a Pict's house which has been inhabited till the present generation, and goes far to prove the original intent of those structures. I use the term 'original' advisedly; for although they were constructed for dwellings, it is quite possible that they became the sepulchres and monuments of their former possessors."

* Our Highlanders call their Dolmens caves even now.

Houses without any window are still in only too common use in Shetland, and are inhabited by a virtuous people. Under these circumstances, the want of windows in Dolmens cannot be held as a conclusive argument against their having really been the houses of the living men of their day.

There still remains the question, Have the tombs of the various races of men been usually, or even frequently, of better construction than their temples, palaces, and forts?

On comparing the above with the whole dimensions of the Bretagne Dolmens, it will be seen that the size of them can in no respect be held as a bar against the belief that they might have been the houses of the living.

Throughout Scotland there are many structures such as this St Kilda one, and of much greater size. In Aberdeenshire, some are 60 feet in length, 10 in breadth at the inner end, and 9 in height of roof. In the length there is a bend almost to a right angle; and among the Dolmens of Brittany there are some of the same form, roofed in the same manner, *i.e.*, partly by lateral vaulting, and partly by long stones stretching from wall to wall. The articles found in the St Kilda house most distinctly bespeak the nature of its purpose and use. I shall now notice those found in the Dolmens of Brittany, and leave the reader to judge whether they tell of domestic life or of sepulture. Though these are generally termed sepulchres, the list of articles found in them does not indicate that that was their original use. We have on this subject no other voice to listen to than just what they may tell us, together with the echoes which we have from such places as St Kilda.

1st, In Grotte de Grionac were found the following articles:—flint flakes, clay spindle-whorls, fibrolite axe; rolled pebbles of quartz, urns, and fragments of these; flint knife, and fragments of pottery; flint scrapers, iron arrow-heads, brass coin of Faustina, two fragments of human bones. The whole list is domestic save these last; and as they are termed "fragments," there may be some doubt attached to them. These and the following are on the authority of Mr Lukis.

In a Dolmen quite near to the former-mentioned one, the following articles were found:—"Two Callais necklace-beads, two clay spindle-whorls, a flint knife and flakes, fragments of urns; and, in a side chamber, six fine clay spindle-whorls, also jasper and steatite beads. Again, at a few hundred yards distant, Kluder-ier Dolmen—a clay spindle-whorle, a flint knife, and broken pottery; flint flakes; a rudely chipped, unpolished quartzite implement (resembling those found in drift beds), and a small slate bead.

"At Grottes de Roche Guyon two gold collars were found. The above is a triple-chambered tumulus, near to Plouharnel. In the eastern chamber were found urns and gold ornaments. The side chambers contained human bones, ashes, and charcoal. It is no doubt *possible* that all the above articles may have been buried along with the dead; but there are probabilities also to be considered. There is mention made of a fact, which is a disturbing element in this question, and it is this, that several of these Dolmens are known to have been in recent times inhabited by men; and of course they must have sadly jumbled any remains of antiquity. And it must be allowed that, in past ages, when the chambers of these Dolmens were in sounder condition, the frequency of inhabitance would be much greater as the quarters would be more comfortable; and the probability is, that the ideas of the natives in olden times would be more in accordance with such abodes than they are in this century."

It is pretty certain that the articles now found in the greater part of these structures are not likely to be of the same antiquity as the chambers themselves. In this connection, it may be remarked that in the Dolmen of Gavr-Inis, one of the best preserved and largest, and consequently most fitted for human use, no articles of antiquity were found. But on the neighbouring island—El-Lanic—where there are

two stone "circles," which the Atlantic is now buffeting to their destruction, there were found "many flint and other stone implements, fibrolite and diorite axes, knives, scrapers, hammer-stones, animal bones, and innumerable fragments of earthenware vessels. The south beach and the centre island appear to be strewn with similar objects."

The instances above quoted fairly represent the articles found in the other Dolmens. It is needless to lengthen the list, and readers can form their own conclusions.*

There still remains to be considered the standing wonder and question, How these prodigious roof-stones were set aloft on the airy props on which they now are seen? Those who hold the Free-standing Dolmen theory ought to be able to show how the men of olden times accomplished this architectural feat. Certainly I cannot; but am sure that those of the present day could not achieve it. Even though they were aided by a crane of 50-ton power, they could not be able gently enough to settle down those huge stones on the so-called "props." Unequal as they are in size, and having no cohesion or foundation, they would simply fall under like card-houses. The one way in which, under any circumstances, the hard task of raising cope-stones seems possible is, first to build and make very solid a mound of earth, or stone, of great size, and in the centre of it to leave a hollow space about equal in size to the intended Dolmen-chamber, then to arrange around that space the wall stones. If the chamber is intended to be, say, 6 feet in height, then the enclosing mound must be a little higher than that, say 7 feet, or somewhat higher than the highest wall stone. After these arrangements are all made, strong men, by rollers and levers, could lay on such a cope-stone. The pressure of the ends of these must then have rested on the covering mound, in the first instance; and gradually the force of compression would settle them down on the tops of the tallest stones; and even when the mound came to be removed, as it is now, *some* of them would continue to rest there, but evidently many of them fell to the ground. Demi-Dolmens are those which in part have fallen.

In addition to the already mentioned arrangements, in the case of the greatest cope-stone being laid on, it may have been necessary first to fill the chambers of the Dolmen to be erected with small stones or earth until the roof was safely settled: after that was done, all could be cleared out.

Evidently much patient effort must have been bestowed on the rearing of these edifices; and we know of no other means in use in those

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* TOMBS *versus* HOMES.—I do not know of proof that in any age the houses of the living men of it were so greatly inferior to the houses for the dead as those of Brittany must have been, if we are to conclude that not one of the former has survived on account of their structural feebleness (?), while the latter are almost innumerable. This moot point might surely be settled by appeal to facts. It will not, I think, be asserted that such is the order among the existing nations of the world. Then as to the nations of history: of these, the oldest is the Hebrew, and of them it is certain that the sepulchres of their dead were at no time grander than the dwellings of the living. From Abraham down to the latest of their kings this is the fact regarding them. Some object that the Hebrews had no early buildings of note. The following are proofs from Holy Writ that that people in early ages built towers, cities, palaces, and temples, which were of far greater architectural importance than were their tombs. In the days of Jacob we read of the tower of Edar, and of Thebez, where was a strong tower within the city. Of Shechem, a tower and hold of Berith, which was capable of containing "about a thousand men and women" (Judges ix. 46-49). "The cities are walled and very great" (Numbers xiii. 28). "The cities are great, and walled up to heaven" (Deuteronomy i. 28). [The men who speak thus are those who had seen the buildings in Egypt.] As to palaces or temples, it is enough to mention the buildings of David and of Solomon. But how little is written of tombs. The first one that we read of is that of "a princess" (Sarah, the wife of Abraham); and it was only a "cave." Again, there was "a 'pillar' set on the grave of Rachel." And these notices are all we have of the tombs of the early Hebrew times. We read of the tombs of the kings of Israel; but these, we know well, were far inferior to their palaces, to their forts, and to their temples. Of the tombs of Babylon and of Nineveh we may safely affirm the same. Egypt may be thought to differ from all these countries in this respect; but even there the "graves which are about her," great as they are, are not greater than her temples and her palaces. Of Greece, we are sure that its tombs were not finer than its temples: Mycene speaks for this in its ancient times. Rome, too, furnishes no exception to the rule, nor do the nations of modern Europe.

Taking into account (as I think we must) these facts above mentioned, it does seem passing strange that we should be asked to believe that those ancient Celtic races alone of all the peoples in the world had entombed their dead in long-enduring and laborioulsy constructed edifices, while their living men contented themselves with paltry, ephemeral, and now perished abodes.

days but brute force. See Plates III. and V. for the ground plan, view, and external facing of the covering mound of Ker-Cado Dolmen.

In "Notes on South Wales Cromlechs," by the Reverend E. L. Barnwell, he discusses the theory of free-standing Cromlechs at great length, and affirms his conviction that both the Dolmens of Brittany and the Cromlechs of Wales have been in their original condition covered with mounds of earth or of stones. His thorough knowledge of the antiquities of both countries ought to give great weight to his opinion on the subject; and, indeed, without covering mounds Dolmens had been of no use; and they certainly never were intended for ornaments to the country, or for the contemplation of the savage eye.

AVENUES.

This is a very difficult subject indeed. There remains to be noticed the wonderful lines of great stones which are by many called "Avenues." Having carefully examined the chief of these—Erdevan, Menec, Ker-Mario, and Ker-Lescant, I shall hazard a few remarks.

The more I consider the two kinds of Megalithic remains, so abundant in Brittany, the more the conviction grows that the Avenues of stone and the Dolmens are not so dis-similar and unconnected as at first sight they appear; but I greatly fear to avow my very prosaic conjectures concerning things which have been the object of so many fine imaginings and poetic fancies, and must hint my opinion with timidity.

Speaking roughly, the great lines of stones or "Avenues" run in a direction from east to west, skirting along upland slopes, which fall gently toward the sea-shore on their southern sides, and its many creeks are nowhere distant from any of them. Erdevan line is about 7000 feet in length; Menec about 3376 feet; Ker-Mario, 4000 feet; and Ker-Lescant, 1000 feet. Each of those clusters of lines of great stones had attached to it a circle or semi-circle, also composed of great stones. The circles belonging to the Avenues or lines are now only very dimly traceable, excepting the one at Menec; but tradition and early authors state that each of them had such accompaniments, and there still are sufficient remains to induce belief in this, all the more so that the Menec circle still is a very substantial relic. Its form, it is true, would be better described by saying that it is a square, with its corners rounded off. Its diameter is 400 feet, and it encloses the modern village of that name, and its stones in some parts form the garden walls. The village cottages greatly obscure its course. The stones composing this so-called circle are of very great size, and in many parts they stand in close file, stone leaning against stone. The fact of this close file in the arrangement of the stones here is important to be remembered, as we are assured on good authority that the now detached stones of the Avenues themselves were, even up to our own days, in many places standing in the same close contact—in fact, were walls, or in the words of Mahé, "*Elles se touchent comme des soldats dont on fait le revue.*" (J. Mahé, "Antiquites de Morbihan," 1825.) Other authors affirm the same. The position and appearance of these "circles" suggest the probability that they had been fortified places; and curiously enough, both in Scotland and in Wales there are instances of forts being connected with lines, or with clusters of standing stones. By those who think that these lines of stones were somehow or other sepulchral, this idea will at once be rejected, for what use would the dead have for a fort. But the sepulchral theory itself has need of proof. The fact that the at present isolated stones of these lines were really in former times parts of solid walls, does not go to help that theory; and another fact that seems to militate against it is, that there is, in general, no soil under them in which to bury anything, not so much as even an urn.

Are there, then, any facts that point to another solution of the difficulty? Here are a few that seem to do so. Evidently in all the clusters the lines close in somewhat, as they draw near

to their several circles. The twelve lines of stones at Menec circle gather closer and closer, until their diameter is the same as it (400 feet). The ends most removed from the centre are somewhat spread out, fan-shape, and this feature is observable in other lines besides those of Menec. Well, if one were to suppose those circles to be the remains of forts, and the stone lines to be those of ancient towns or villages, the gathering in around a place of defence would be natural enough.

A portion of the great lines at Erdevan appeared to me to throw a little light on this question. At their furthest west end, there occur by far the largest stones, larger than those of any of the other "Avenues," and there it is quite evident to a careful observer that many of the greatest of them have been roof stones of Dolmens which had stood in line as part of the Erdevan group. Hints of the same sort occur in some of the other Avenues.

Was there ever a time when all of them were connected with Dolmens? To some it will appear a wild conjecture to imagine for a moment that these far-spread stones should be the skeletons of ruined townships of the earliest age! But it must be at once granted that if these are not vestiges of human dwellings, then there are none such in the whole district of Morbihan.*

If these structures were originally Dolmens, then they must all have had covering mounds. This, again, would at once start the questions, Where have the materials of all these now uncovered Dolmens gone to? Whether these materials were of stone or of earth? It is not difficult to account for this. In regard to the former of these, it ought always to be remembered for how long a series of centuries men have been helping themselves from out of those buildings to whatever they stood in need of for their various edifices, and from what we see of modern structures, these needs have not been few.

The farm-houses and villages of the district are all of a most substantial kind, and how very numerous these are! From a point chosen at random, I counted not fewer than thirty towns, villages, and hamlets. Of course the view was an extensive one. Many of the farm-houses must originally have been chateaux, as their architectural designs are tasteful, and the masonries fine, far beyond what would have been bestowed on mere homesteads. Again, the villages all have their picturesque churches, which are acknowledged to have been built out of ancient alignments of stone. It is sad to see that over chateau and village alike there has fallen an aspect of deep decay. Whence comes this? Near to the village of Carnac there may be seen a striking exhibition of the above-mentioned appropriation of material. All the house, garden, and field-walls at a certain place suddenly are found to be built of small, regularly squared stones. How is this? Well, there are close by the remains of ancient Roman villas, and these stones were once theirs. All other buildings around have drawn their materials from the Cyclopean works. Indeed, there seem to be no other quarries in the district.

The earth covering. At the beginning of these notes there was mention made of the remarkable thinness of the soil over the whole district occupied by those Avenues, and I now recall attention to this fact as being one of the probable causes of the disappearance of the covering mounds of Dolmens, in as far as they may have been of earth. Being there in

* Fremmenville, in his "Antiquites de la Bretagne," Brest, 1852, page 24, says that isolated towers were certainly the first stone fortalices in France, and that the ancient Celts or "Gaulois" never had walled towns, all the defence of their "oppida" being palisades, surrounded by a fosse. In A.D. 886, in the famous siege of Paris by the Normans, the chief defences were of wood. The noblesse, in after times, built stone towers for their dwellings or "donjons," which he describes as "having walls so strong and broad, that the ascending stairs were put in the thickness of them." They had three stories; their summit was a platform, and under them were frequently subterranean chambers. These fortalices, which at first were erections of necessity, in process of time became an exclusive privilege of the nobility, and afterwards, when in changed times they dwelt in chateaux, they still preserved these ancient towers as an "illustration de notre familles." Do not there, here too, appear some trace of Broch and Nuraghe?

the middle of October, I was struck with what was quite a prominent feature of the landscape. At first I could not account for it. All over the district were large oblong mounds, resembling those in which our potatoes are stored for the winter, but larger. I thought they might be for storage here too, and that the crop must have been a very good one. But a week or two passed over, and their true nature appeared. The ground was being prepared for sowing the crops, and those mounds were everywhere being broken up. The winds blew from them clouds of dust, and the whole was seen to be a composition of sea-weed and grass-turf. The farmers were spreading it out to improve the scanty soil. I had already observed the gathering of the sea-weed, for it lay in great depths in the streets of Carnac village, and had to be waded through a foot in depth in the post-office court. As for the source of supply of the turf part of the composition, it was most judiciously managed. On commons, waste corners of the land, and road sides, the peasantry might be seen, with a sort of small spade in hand, scooping up pieces of grass-turf, about 4 inches in breadth, leaving untouched a piece of the same size, then again scooping up the next 4 inches, and so on, thus always leaving a portion of turf, to start the growth of another year. Looking at this careful method of accumulating soil, one may rest assured that a people who act thus would be certain to take an early use of the covering heaps of Dolmens, and considering the lapse of ages, it may easily be believed that though every stone of those vast arrays of Avenues had been parts of once covered Dolmens, they might well now stand bared to the gaze of our age.

It has been subject of remark that Cæsar, in his account of his battle with the Veneti in the Morbihan, makes no mention of the Carnac groups, with their attendant Dolmens; but that the Romans were in this very district cannot be doubted. If all these Dolmens were in those days covered with mounds, they might readily escape observation, or be thought unworthy of it. As to the so-called sculpturings in the interior of Dolmens, they might be more correctly called tracings. All that I have seen are characterised by a feebleness of pronunciation so unlike the force and power displayed in the structures with which they are connected, that one hesitates to believe they are the doings of the same race and age. They must have been worked by bronze or iron implements, and are but childish scratchings on the house walls.

The stone and rock sculpturings in Scotland, simple as are their designs, are deeply and laboriously wrought into the stone. Many of them are not graven with any sharp tool, but are done by the friction of stone upon stone; and even the later ones, which have been incised with metal tools, are far more truly sculpturings.

III.—CALLERNISH.

GROUND PLAN AND DRAWING.

I SHALL now offer a few remarks on the "standing stones" of Callernish, in the hope that, small as their scale is as compared with those of Brittany, there may yet come out from them something towards helping to solve the mystery which hangs over the whole class in this and in all lands; for, differing as they do in many aspects in the different lands where we find them, there yet seems to be a sufficient similarity to show that they are all of one family. Of course, in looking at each of the far-scattered groups, we must always make due allowance for the diversities necessarily occuring from local peculiarities, particularly those occasioned by the nature of the rocks of the different countries in which they are found.

A momentary glance at the Megalithic alignments both of Brittany and of the island of Lewis, will at once discern their dis-similarities; but my purpose is rather to note their similarities, which are very real, though not very obvious. And with this in view, I shall first take note of the appearance of the Callernish group as it was in 1819, and afterwards note its appearance when I visited it in 1876.

MacCulloch, that writer and keen observer, in his "Western Islands of Scotland,"—1819, describes the Megalithic remains at Callernish as being—

"In the form of a Roman cross, having a circle of stones at the intersection, and a great stone in the centre of that circle; but parallel to the longest arm there is another line of stones.* The longest line of the cross lies in a direction 24° west of the meridian, the whole length of this line being 588 feet; but there are stones to be found in the same direction for upwards of 90 feet further which have apparently been connected with it. The cross line intersecting this one is 204 feet, but it is longer on the one side of the long lines than on the other. The diameter of the circle which occupies the centre of the cross is 63 feet. The lines of upright stones cease where they meet the circumference of this circle. The centre stone is 12 feet in height. The additional line of stones is on the eastern side of the long line. Many of the stones are absent towards the northern extremity, but there are traces of their former sites. The interval between stone and stone is from 2 to 10 feet. The number of stones in the circle is 13, and in the whole building, erect or fallen, is 47."

So far MacCulloch. In contrast with this description, the following is the state in which I saw the same in 1876. The whole length of the longest line of stones is now 415 feet. The cross line intersecting, on the northern side, is 44 feet in length, and on the southern side 36 feet. The great circle mentioned by MacCulloch must necessarily be the one of which only four stones remain. The diameter of it is 63 feet, for the diameter of the inner circle is only 36 feet. In it fifteen tall stones still stand, and stand around a solid circular block of masonry, in which are two small chambers or Dolmens; but almost all of these must have in 1819 been covered by peat-moss, all of which has since been removed by the careful antiquarianism of the late Sir James Mathieson of Lews.

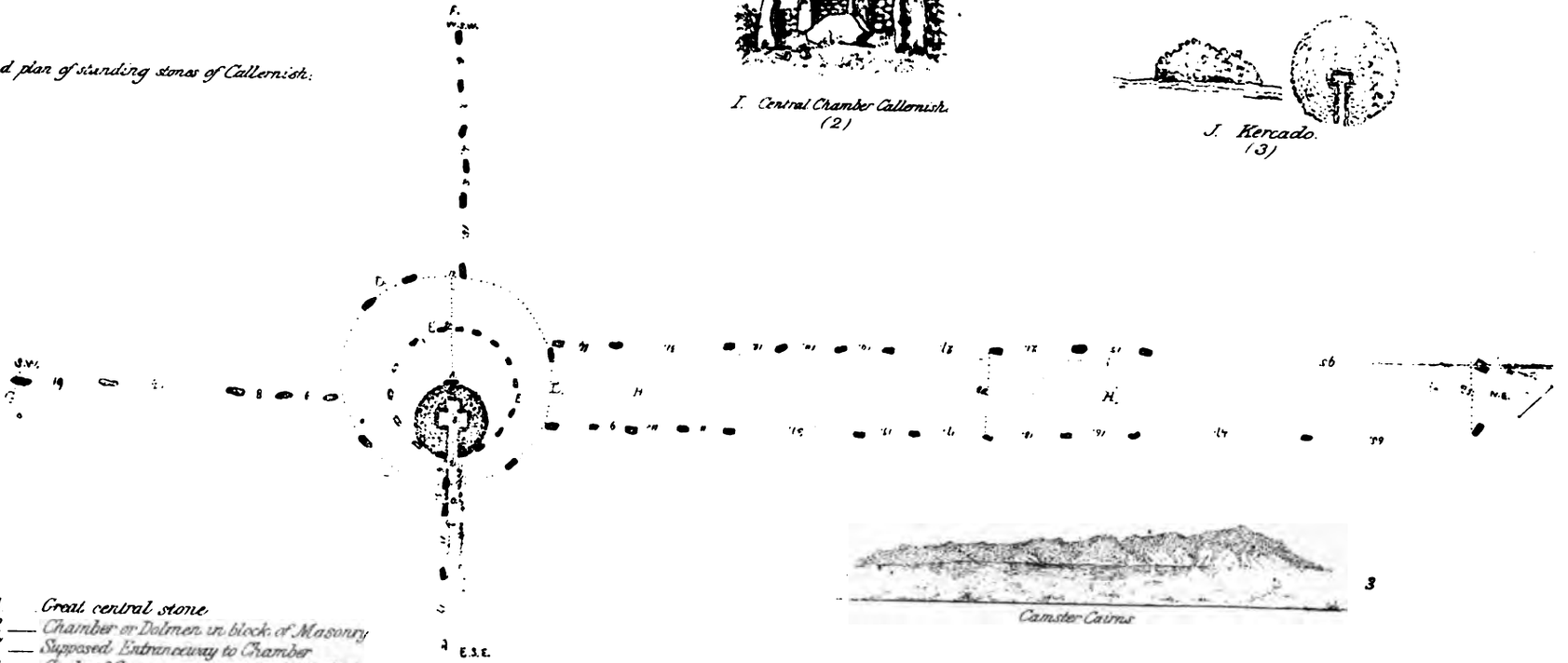
All the taller stones of the Callernish group still bear the water mark of their former immer-

* An examination of the site of the whole group will at once convince that the Roman cross form arises from the nature of the ground on which it stands.

Ground plan of standing stones of Callernish.

I. Central Chamber Callernish.
(2)

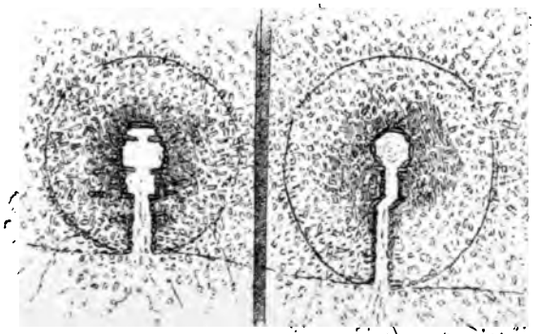
J. Kercado.
(3)



A ... Great central stone.
B ... Chamber or Dolmen in block of Masonry
C ... Supposed Entrance way to Chamber
D ... Circle of Stones mentioned by M^r Culloch.
E ... Supposed to be the inner circle of a great wall of which the circle at D is conjectured to have formed the outer circumference.
F ... Precipice. Precipice.
G ... Line terminating at Rock
H ... The great double line.
I ... Drawing of central chamber
J ... Ground Plan & Drawing of Kercado Dolmen in Brittany. Its Diameter is 60 feet, and is a solid block of Masonry, it has two concentrically circular Walls, and is placed here for the purpose of comparison with the central blocks at Callernish.

3
Camster Cairns

Camster Cairns (in Section)



(1) Camster (2)

sion, for above 4 feet they are beautifully hoary with lichens, and below it they are quite bare. The short line of stones extending outward from the entrance of the square chamber has all the appearance of being a continuation of it, there being a sort of hollow groove or trench in the soil alongside of the line of stones. The length of each of the different lines of erect stones here appears to be in no small degree determined by the nature of the site they occupy. The one, for instance, which stretches northward is necessarily terminated by coming to the brink of a precipice; that on the south-west side stops as it approaches an ascending rock. The long line has, on the contrary, free scope to stretch along the gently sloping ridge of the hill on which they all stand. The gaps in the line of stones being now extended from the 10 feet as in 1809 to 65 and even 95 feet, clearly prove that havoc has been wrought among the upright stones since that time. Many of the stones now visible must at that date have been quite covered by the peat moss already spoken of.

M'Culloch mentions that parties in the neighbourhood had stated to him that the lines of stones (now detached ones) were formerly perfectly continuous walls. This is particularly noteworthy, as the same fact is mentioned as having been true in regard to alignments in Brittany, where, indeed, there are still examples of this state of things.

Before visiting Callernish, from reading the "Statistical Accounts," I was under the impression that these hoar stones stood on a plain (as some of them say so); but in reality they stand on a rather lofty rock, overlooking Loch Roag on the one side, and a long narrow valley on the other. The view from it is widespread, a treeless expanse of low hills and far-stretching arms of the sea.

The chief feature in which this assemblage of lines of stones resembles those of Brittany is in their both being connected with a circular structure. If we for a moment permit ourselves to think that in both cases those circles had been defensive structures, then the appearance of Callernish at once shows that it has military capabilities. In connection with this idea we may mention that on the side of the hill where the slope is gentle there are remains of a long stretch of an ancient trench. Another resemblance to the Brittany alignments may be mentioned, that the stones have little hold of the soil; for, indeed, there is little soil to hold by. In looking at the face of the country around, one cannot help noticing how well fitted were its many arms of the sea for safety to the homes of a people living in the days of Vikings and sea rovers; and this Loch Roag has on its shores very many ruins that may be those of Norman dwellings. Near to Callernish are several very large circular buildings composed of singularly tall stones. Very few of the lesser stones remain in either of them; but such as do remain are arranged in the usual wall-like form. They have long been buried in the abounding peat moss of the country, but are now thoroughly laid bare down to the true soil.

These, together with Carloway Broch and the circles in its immediate neighbourhood, show that, like Morbihan, this had once been a populous country; and all that remains of the architecture of each favours the idea that for the necessaries of life their occupations must have been the same, whether they were Celts or Norsemen.

As for the cruciform shape of the Callernish group of stones, I suppose all are agreed that they were erected in pre-Christian times, and that not *Faith*, but some human need, was the moving cause of their existence; and whatever their original appearance was, it cannot now be very distinctly represented to us by the sparse and scattered stones visible to this generation.

Nota bene.—The distance between stone and stone of the Callernish group was measured by me.

IV.—OF CAIRNS IN CAITHNESS.

THOUGH presenting fewer similarities to the Brittany Dolmens than Callernish circle does, there still are as many as to induce a brief notice of the Caithness Cairns, and first that at Ormigil, Ulbster,—the great inducement to visiting Caithness being to see the very singular structures known in Antiquarian literature as "Horned Cairns." With this in view, our party first visited the one so called, which is situated on the estate of Ulbster, and farm of Ormigil.

Arrived there, the son of the farmer kindly accompanied us to the place. The said Cairn is quite near the farm-house, and close by the roadside, on a very slightly elevated slope. It is, properly speaking, no "Cairn" in the ordinary acceptation of the term, but is the poor remains of a circular building, whose surrounding wall is 8 feet broad, and its diameter over walls 36 feet. Though much encumbered by its own *débris*, the circumference is still easily discernible. The rude chamber within is of a somewhat oval form, whose entire length is about 15 feet, and breadth about 9 feet. The length is divided into three compartments. Each opens into the other by a two-feet wide space. The door occurs in the middle of the partitions, which are formed by heavy slab stones, slightly inserted into the enclosing wall, and do not reach quite up from the floor to the roof the chamber. The compartment nearest the door is only 3 feet by 5; the second, and chief one, 9 feet by 6½; the third one is little more than 2 feet by 5.

The general facing of the whole wall of the chamber is done with rather small stones; but at the inner end, where the wall fronts the entrance, there is inserted one very large slab. In chambers in Sutherlandshire I have observed a partiality to this same use of a notable large stone in the same situation; and, singularly enough, a similar megalithic arrangement constitutes an invariable feature in the construction of the so-called Dolmens of Brittany, which, we may add, though much greater in size, are notably alike in many other respects.

The entrance into this Ormigil chamber is 10 feet in length and 2 in breadth. Facing the outer end of it are the remains of a wall; and about 4 feet distant from it is a fragment of another wall, placed opposite to the entrance wall. It is not more than 3 feet in height.

All around this circular building, here and there, among the mass of its scattered stones, one can see what appears to be morsels of walls, but nothing that looked like system,—nothing that *now* resembles "horns." All of our party were thoroughly disappointed in the search for these appendages. Evidently the stones of these antiquities are being steadily deported.

The next places examined were the so-called long and short "Horned Cairns" at Camster, on a lone moorland. They are situated in the midst of a marsh. The most important of these rests on a rather long and narrow ledge of rock, of very small height,—probably not more than 30 feet, and this height only at one end, the other gradually sloping down quite to the marsh. Its neighbour, the Round Cairn again, is founded on a small, scarcely observable, circular rock. No doubt this summer marsh will prove a winter pool, and may even have been a considerable loch in days when men built the Cairns, and probably made them their homes. (See Plate V.)

Figs. 1 and 2 show the ground plans of two structures situated on the long ridge of rock; and they are the only ones in that place

sufficiently entire to be delineated. They are placed on the highest end of the ridge. Their chambers are singularly small, and the surrounding walls as singularly great.

In Figure No. 2 the chamber is only 6 feet by 6 in diameter, the gallery leading into it being about 25 feet in length and 2 in breadth. Starting from the outer door and passing inwards, the first 17 feet of this gallery is quite straight; then, at an angle of 45, it bends to the right for about 3 feet, and then again resumes the straight course for 6 feet, which reaches the small central chamber, whose walls are composed of large stones very irregularly arranged. It has had the usual bee-hive roof. The surrounding wall attains the enormous dimensions of from 15 to 25 feet in breadth, a solid mass of stones. Cairn No. 1 is placed quite near to No. 2, on the brow of the same ridge of rock. It covers much less space: its entrance gallery is only 10 feet in length by 2½ in breadth. The central chamber is —like so many of its neighbours—divided in the usual manner into three compartments. Of these the one next the entrance is only 4 feet by 3 in size, the second 8 feet by 5, the third 5 feet by 2½. The surrounding wall of this structure probably does not exceed 17 feet in breadth, and the roof of the chamber was closed in by the usual lateral vaulting. Besides these two buildings, the whole crest of the long ridge of rock is crowded with fragments of similar structures now wrecked and smothered in their own *débris*.

That these should now seem one vast Cairn is their misfortune, wrought by time and chance, but was never their original design. It is obvious that if we suppose the remains under consideration to be those of an ancient hamlet, the rude homes of our rude forefathers, we can then see that for purposes of safety and defence these rocks in the midst of surrounding waters were wisely chosen for their foundation. On the Sepulchral Theory, the above would have no application, as the dead need no moat or wall.

Here also all my party searched for some horn-like structures in the surrounding mass of stones, and did not succeed.

Figure No. 3 is a correct drawing of the external aspect of the long ridge and its Cairns. The two dark specks mark the doors of the chambers. The whole of this rock is covered with the ruins of other buildings, and most probably of the same class, but their remains are now mere fragments.

On the hill (near Yarehouse Loch) are several structures of the same class. Of these I shall only mention two, that at Warhouse and that at Wattenen. They are so nearly of the same character, that it is needless to describe them, save to mark the few points in which they differ from those already fully described. Wattenen is 44 feet in diameter, and its chamber is divided into only two compartments. Warhouse is surrounded by a wall 19 feet broad. The roof of its chamber is almost entire, is 8 feet high, and is formed by the usual lateral vaulting. Its central chamber is 9 feet by 9, and has adhering to its sides slight partition slabs, standing, not across the building, as in the neighbouring chambers, but converging towards the centre,—a method of partitioning which I had formerly observed in the Broch at Carnliath, in Sutherlandshire. Another peculiarity belonging to this building is that the marks of the lintels of two doors remain in the entrance gallery, showing that one door had been placed in the middle of the entrance, and the other at its inner termination. This is a common arrangement in Brochs, and is a symptom of human habitation.

I may now offer a few brief remarks on the Caithness Cairns as a class. And, first, the peculiar way in which the chambers are divided up,—an architectural form that I am not aware has been observed in any of the southern counties of Scotland. Indeed, the only other instance of this square form known to me is that in the circle at Callernish, Island of Lewis, which bears a strong resemblance to them.

I have endeavoured to show that Brittany abounds in the same form of chamber. The

parties who have published the most correct account of the Caithness circles are Messrs Anderson and Shearer. The former very decidedly maintains that their use has been sepulchral; the latter believed them to have been human habitations. In this opinion I entirely concur. If it is objected that the smallness of the chambers, the length and narrowness of the entrance way, and the want of all other air vents, must have rendered them unfit for continued human use;—then, in reply to this, it can be proved that smaller and more unlikely buildings have undoubtedly been used for human homes. I refer to that of the underground house in St Kilda, a case already quoted at page 18.

As the existence of the horn-like arrangement of stones in the surroundings of these Caithness Cairns rests on such excellent authority as that of the Rev. Dr Joass and Mr Joseph Anderson, we must look to the effects of the tear and wear of ten years as the cause of their disappearance, and I have seen as great change wrought on antiquities elsewhere, in the short space of two years, so much so, that I would not like now to exhibit my plans of their former condition.* Among the many extra-mural structures whose remains surround Brochs, it is easy to find many walls which in the strongest degree resemble what has now faded from Caithness Cairns. In particular they may still be seen around Carnliath, Sutherlandshire, but so entire as to shew that they too formed the one side of a circular chamber of the extra-mural sort. Carnliath is no more a "Cairn" than those of Caithness, and may be in truth no other than an early development of the Broch. Men's buildings are all developments; whether he himself is one appears more doubtful.

It seems to me a noteworthy fact that, so far as I know, the extra-mural erections are not to be found around any of the south country Brochs, nor have I noticed them connected with those of the west coast. They are abundantly to be seen on such of the Brochs of Sutherlandshire and Caithness as are situated near the sea coast, but I have observed none of them attached to those situated inland. It is a matter of course that the multitude of them in Orkney and Shetland are all near the coasts. Can these facts go to prove that the builders of them were a fishing population and perhaps migratory?

The smallness of the chambers of the Caithness "Cairns" compared with the breadth of their enclosing walls, must, to those who are accustomed to look only on modern architecture, seem incredibly great; but others, who have seen many prehistoric remains, will not think so, for to them many walls are known to exist elsewhere as great as they; for instance, at Clava, in Nairnshire, at the Tappock, Stirlingshire, and at Coldoch, Perthshire. In Brittany also they abound, and are even of more vast disproportion. At Kercado there is one whose chamber is only 9 feet in diameter, and the enclosing wall is 35 feet broad. These facts ought to prepare us to accept their presence in Caithness. And, again, if we come down to Mediæval ages we find baronial walls almost as thick—for, example, those of the four round towers of Rothesay Castle in Bute, which are 17 feet broad at their base, and 15 feet is quite common in that class and those times.

THE HILL OF THE MANY STONES,

At Clyth, Caithness.

Shall I venture to speak of these pigmies having similarities to the Giants of Carnac? Well, they, like the latter, stand on a rocky slope and in rows, and have about as little hold on the soil; but there the comparison ends. There are 22 lines of stones and the lines are 6 feet apart, the stones in the lines are the same distance from each other. They are only 3 or 4 feet in height, and mere slabs. The number of them still remaining is 400. The oldest writers who tell of these stones say that in their day many

* These stones have probably been used to weight the thatch of cottages, according to the custom of this country.

of them were 6 feet high. At Garrywhin, Yarhouse, and at Camster Moor, are groups of the same nature, and in all of them there are hints of their having been connected with now extinct populations.

The original use of these alignments is still a puzzle to the on-looker. One thing regarding them seems plain, and that is, that they cannot be of great antiquity, reasoning from the general thinness of the stone slabs themselves, and also from the slender hold they have upon the ground. The fencing of grain fields in this county is very commonly done with stone slabs even at this day, and as in the absence of wood many other things are done with the same, something very simple may yet account for the whole of these Megalithic mysteries, and in homely enough fashion. An instance of this *possibility* occured to our sight on the same day in which my party was inspecting "The Many Stones."

Driving along the highway in company of a gentleman well acquainted with the county, we observed at some little distance a group of tall and venerable-looking stones; we asked of our driver their name, he said "they hae nane." We wished, notwithstanding, to go and see them more closely. He then said, "they're no auld ava." None of us could believe this, until he added, "I saw them set mysel." Oh, well, for what purpose were they set up? "Weel, just to dry clothes." Fancy clothes-poles of stone! After this we begin to conjecture some very tame uses that may have been for the "Many Stones," but shall not mention them lest Antiquarianism should be too much offended!

V.—NOTES ON A FEW MYSTIC RINGS OF STONES IN ABERDEENSHIRE.

HAVING elsewhere broached the opinion, new to our Scottish antiquarianism—*i.e.* that the upright pillar-stones standing in circles in so many parts of our country (commonly called Druidical), and supposed to have always stood each apart, as they now do, have really—notwithstanding appearances, and "habit and repute" of long years,—been in their original position and purposes parts of solid walls of stone of great breadth, and that their primary use was to bind together the unmortared masonries of circular buildings. On this and some other structural facts I offer here a few remarks.

To those who have had opportunity of seeing but few of those "Rings of Stones," and only those so far destroyed as to have had the lesser stones removed, which once accompanied and combined the array of tall pillar-stones into one wall—it is a natural enough conclusion that they had always stood unconnected; but a wider field of observation, and a closer scrutiny, bring to light facts which are totally at variance with this long established opinion; and as the newly broached one has much that is venerable in authority to contend with before it is admitted to belief, I continue to embrace every opportunity of testing its verity by examining additional specimens of stone circles as from time to time friends may kindly inform me of their existence, and also to obtain the opinion of such of my friends as may have examined them for their own satisfaction; and I may add that all of them are fully and immovably convinced of the facts regarding the list* subjoined of circles:—1st, touching the so-called "Altar Stones." Of these, they gave some strongly corroborative proofs that they must be held guiltless of the blood of Druidical sacrifices—and that in their better days they had ministered to human wants in the more humble but more useful capacity of lintel stones of doors. There are some also who desire to secure these ancient monoliths as witnesses to the presence of a former Baal-worship in Scotland, because they are commonly found on the southern sides of the circle to which they belong; and no doubt such is their frequent position, but the same is true as to the modern doors (excepting those in streets) and for the same reason, for we all love to face the sun, paying a selfish adoration to its cheering rays. But those supposed altars show a sufficient number of exceptions to the rule of southing to cast a doubt over the sun-worship theory, apart from other arguments against it, and probably not many will at this day insist on this point. Of the friends who, after examination, agree with me in my reading of circles and altar stones, I am happy to mention the Rev. J. G. Michie of Dinnet (in the annexed note will be found a full expression of his opinion), and I do not know anyone whose words ought to have more weight

* Auchorthies, Newart.
Auquhorties, Banchory-Devenish, Kincardineshire.
Auquhorties, Inverurie, Dyce.
Auquhorties, Old Deer.
Old Craig, Daviot.

them as I did in an unsafe degree. Again these stones all stand *within* the line of the frontage of the circular wall, giving the most distinct evidence that they had formed constituent parts of it. The door of the Broch (?) has as usual been on the south-west side of the building; its lintel stone is 11 feet long. A modern wall surrounds the whole, and has no doubt been one cause of its destruction.

It would have been easy for me to have added descriptions of several more circles, but I hesitate to do so, as the necessary sameness of language, consequent on the structural sameness, could only prove a weariness to the reader.

Copy of Letter from the Rev. John G. Michie, Corresponding Member of the Edinburgh Antiquarian Society, to Miss Maclagan, Ravenscroft, Stirling.

"BLELACH HOUSE, *1st August* 1877.

"DEAR MISS MACLAGAN,—Since I had the pleasure of lately visiting, along with you, the standing stones at Dyce and Auquorthies, near Inverury, I have again perused your notices of them as given in your work on the 'Hill Forts and Stone Circles of Ancient Scotland,' and now wish to make a few remarks, suggested by a comparison between these notices and my own observations.

You say 'the stones are equi-distant along the *outer* circumference of the inner wall.' To a careless and inexperienced observer I could fancy this fact would not at first sight be evident. Whatever the structure may have been it has suffered so much dilapidation, and its remains are so overgrown with grass that the inner wall, except for a short distance, cannot be very distinctly made out: but by attention to the part where the facing stones of the inner circumference of the inner wall are clearly traceable, and by following with the eye the segment of the circle there obtained, it becomes at once evident that your statement, that the pillar stones are in the outer circumference of a wall 12 feet thick, is perfectly correct. By measuring the intervening distance I also ascertained that they are equi-distant.

I think you have considerably underrated the heights of some of these stones, but as they were measured by us, and a note taken of the heights, you have the data for making any correction that may be found necessary. It strikes me also that the ground plan, as represented in Plate XXVIII., though very clear and faithful, even to minute details, is rather on too small a scale; but if so, this also you can correct from the measurements we took. The other statements you have made regarding this stone circle on page 77 of your work, accord in every particular with my observation.

What you say (p. 9) as to the entrance to these buildings is fully borne out by the remains at Dyce, and still more clearly by those at Auquorthies. The position of the tall pillar stones precludes the supposition that they could ever have been used as supports for the great slab which now lies between them. The ancient supports have at Dyce evidently been carried away, and the slab now rests on its edge on the ground. I must say that the purpose, or rather the purposes, which you assign to these very tall monoliths (one on each side of the entrance, but a few feet distant from the door-cheek on either hand) would be effectually served by the position in the wall which they certainly occupied. They would, while serving as binders to the wall, at the same time effectually prevent the huge lintel between them from swaying to either side.

I have only another observation to make regarding the Dyce circle. It is in reference to your statement (p. 6) 'We have carefully examined many fallen pillar stones, and in no case did we observe that any of them had been so deep in the earth as 1 foot.' Now, in the Dyce circle, you will remember there is a stone—a very tall one—so far off the perpendicular that, on the supposition that it has no deeper hold of the earth than this, it would seem impossible for it to retain its position. To satisfy myself on this point, I removed the grassy sward to obtain an examination of the base, which I found to be supported not by the soil but by the *débris* of the ruined wall which propped it up in its present insecure position. And from the contour of the position of the stone disclosed, I feel justified in affirming that it could not extend more than 2 feet below the present surface; which, however, is not the original surface, but a grassy sward formed over a considerable depth of loose stones—the rubbish of the former wall. My own observations elsewhere are in entire accordance with your statement—that the pillar stones were not originally planted to any great depth in the soil.

In regard to the circle at Auquorthies, I have only to say that, so far as my examination went, your statements are absolutely correct, and the representations of it given in Plates XXVII. and XXVIII. are clear and intelligible. The principal point elucidated by this circle—and it is an important one—is the nature of the door-way, the great stones of which still remain so in position that no doubt can reasonably be entertained that the original position was that which you have represented it to be in your restoration sketch, Plate XXVIII.

I should not like to commit myself to saying that the structure, in its most complete form, attained the height you have given it in that sketch; but I am of opinion that you are perfectly justified in setting up the door-way or entrance as you have done. The elevations which these structures attained, I am disposed to agree with you, were pretty considerable, judging from the immense quantities of stones that have been carted off from the ruins of some in this neighbourhood, regarding which I have reliable information. And assuming that the manner of building was of a piece with what we still see *in situ* at Mousa, and elsewhere, the elevations of some of these old circles and cairns must have been very considerable, if all these stones were so piled on the foundations now traceable.

On this point, however, I am of opinion that the sketches you have made—and which you were kind enough to show me—of the round towers examined by you in Sardinia throw much light; and I hope we shall soon see these and the results of your more recent examinations of our Scottish Brochs or Cairns in such form as permanently to preserve them.

I am,

My Dear Miss Maclagan,

Very sincerely yours,

(Signed) JOHN G. MICHIE.

P.S.—I subjoin a few notes regarding the Blue Cairn, Coldstown. Mr Cottman, the proprietor, kindly gave me the services of workmen to explore the foundations, and I superintended the work myself. I cannot give you here a sketch-plan of what our exploration disclosed, nor is it necessary, as your own sketch of Craig Carril (Plate XX.) represents it very closely, except that the interior apartment had no chambers. There were three walls, as there, 8½ feet apart, and each wall about the same thickness as the spaces between.

The outer wall was but faintly indicated, the other two were well marked in the disclosed foundation—the inner circumference of the inner wall had three upright slabs from 2 to 3 feet in height, *in situ*. The others had either fallen or were carried away. None of the great pillar stones remain, but the south-west slab or door-lintel still remains, though not *in situ*. The Cairn served as a quarry for door-lintels to modern buildings in the last generation. In the inner chamber I found a large quantity of small fractured bones, which I submitted to the examination of Dr Beveridge. He pronounced them bones of sheep and deer, but no human bones were found. The bones were very much decayed, but none of them in a fossil state. There were also found some fragments of vessels of baked clay—the clay such as is found in the neighbourhood. It might have been an Urn, but from its shallowness I rather think it must have been a vessel used for domestic purposes. The inner chamber was 12 feet in diameter, and between the upright slabs found in the wall facing it these stones were laid together with considerable regularity, in fact built, in a rude way. On looking over the Plates perhaps the ground plan of the foundation at Leys, which you give in Plate XXVIII., more nearly resembles the foundation of the Blue Cairn, only there there are but two walls. I examined a few of the smaller Cairns in the neighbourhood of the Blue Cairn; these are about 10 feet in diameter, are all circular; when the stones huddled together in the centre were removed they disclosed marks of a surrounding wall, in some cases very distinctly.

I may also say that in the vicinity I have got some rude stone cups. Some were also found in other Cairns and within an Eird House, discovered some years ago."

VI.—ICELAND.

"ON the further margin" (of Ellida Vatu, a small lake near Reykavik) "is a small peninsula or ness, and at the neck is a collection of ruins. One sees the foundations of many dwellings, oblong-like houses or booths; whilst there are many standing stones not very high, and a round wall or foundation of a round building. Mr Gudmundson has been good enough to make a drawing or plan for me.

"There are foundations of eighteen so-called 'booths.' Close to them and amongst them is a round wall, levelled now with the surface of the grass, but I do not know what depth or height it may have been; at anyrate it is about 5 feet in thickness, and the space enclosed is 22 Danish ells in diameter, each equal to 2 Danish feet. I had never seen a circular wall (it appears on survey to be oval) of such dimensions, and marvelled! This circle was built *solid*.* It was not an open or so-called Druid's circle; it was like the other house walls of Iceland, to all appearance made to hold a roof and to keep out bad weather. Of these two there appears doubt. One of these less distinct places had a small circle and another concentric, and I believe a third outside, but so much in ruins that I am unwilling to leave part uncertain. Why are these booths there, or are they booths?

"The Iceland Sagas seem clear enough on the circular form; and one object of this paper is to show that the open stone circle, our common one, is found conjoined with the closed one as well as not conjoined, and may be seen in Iceland to-day."*

"Hof," in Iceland, is the name of the temples of gods, and also of the homes of the great men. (Dasent's "Burnt Njal," page 300.) Dasent also says these buildings are both round and vaulted. Brochs and Fanes, also here called Hofs, Horoff, How, House, The Home. The above-mentioned buildings seem strongly to resemble "The Howes" of Caithness.

* Just what I hold to have been the case of the Druids' circles before men's hands removed from them their solidifying stones.

* From a paper "On some Ruins in Iceland." by Dr R. Angus Smith, in the Proceedings of the Society of Antiquaries of Scotland, vol x., p. 151.

VII.—BENACHIE, ANCIENT FORTRESS.

BENACHIE MOUNTAIN is situated in Aberdeenshire, and is distant from the city of Aberdeen about twenty miles, and is rather a favourite resort of its citizens in holiday time.

It is not noteworthy on account of its elevation, for that is only 1700 feet; but it makes itself noticeable by its bold and striking outline, the summit being crowned by a lofty precipice, well nigh an hundred feet in height, and being narrow as well as lofty, it at a distance appears as if inaccessible to human feet. But the most remarkable feature of this mountain top is the remains of a vast and venerable fortress, which is embedded among its grand cliffs, the breadth, the extent, and the multiplicity of whose walls prove it to be the greatest of all the many ancient Hill Forts of Scotland. MacCulloch looked on it, but spoke of it as only a singularly grand cairn! We find no notice of it in the history of that county; and perhaps it may be accounted equally singular that scarcely any of our antiquaries have mentioned its existence, and none of them have comprehended its greatness. The late lamented Dr John Stuart had even walked over its ruins, but did not heed them, and himself afterwards said to me, "The fort is yours." Of its history I am acquaint with only a notice of it in the "Records of the History of the Family of Leslie," page 4, vol. iii. (1378), where we have the following:—

"Sir Andrew Leslie seems to have been a turbulent baron of very loose morals." Page 5—"It was probably in consequence of a feud with Sir John Forbes, and because he had also given offence to the Earl of Mar, that Sir Andrew Leslie withdrew from Balquhain and occupied an old fortress on the almost inaccessible pinnacle of Bennachie, nearly 2000 feet high, and not far from the Castle of Balquhain. Having repaired the strong post, he remained there* till he made peace with the Earl of Mar, when he returned to Balquhain; but he still retained the Fort of Bennachie as a place of security." This baron was famous for stealing ladies!

There are four forts on the ridge of the mountain known as Benachie; its extended line runs from east to west, and its highest point is at the east end. There is a mile of space between each of the forts on its crest. The smallest of these is the most westerly, and is now merely a confused heap of stones, but they are yet unmistakably the poor remains of a round fort. Eastwards one mile further stands the second fort. It is much larger, but greatly wasted, probably because it is easy of approach. It is curiously built in and through a circle of stacks of granite rock, the human handiwork of it being merely curtain walls running from stack to stack, these stacks being 13 feet in height. The third fort is one mile further east, on the loftiest pinnacle of the mountain, which is somewhat isolated, and is called "The Mither Tap o' Benachie."

At the base of the mountain, on a now well wooded knoll, situated about half-a-mile west from Pitodrie House, is a fourth fort, and one that evidently had been of no small importance, judging by its size; but it is of such easy access that all its stones have been removed, and it is now known to us by its trenches alone.

In a volume entitled "Hill Forts and Stone Circles," &c., I have formerly written about the grand old fort on the "Mither Tap," in so far as I then knew it; but since that time I have

* "He remained there." He could not have done so but for the round houses whose ruins still remain, and are numerous enough for an army.

revisited it in three different years, and always with increasing knowledge and admiration of it as a place of defence.

In 1876, together with a party of friends, we made a considerable excavation (40 feet), which brought to light, at a point near the *well*, a continuous row of circular houses immediately within the great wall, and separated from it by a well-formed gallery about 3 feet in breadth. This gallery and street of houses we conjectured to run along the whole 600 feet of wall, but we had not permission or means to prove this. In 1878 we had both of these, for by the kind courtesy of the proprietor of this part of the hill, Mr Leslie of Fetternear and Balquhain, I was enabled to make a thorough investigation of this and of several other structural points, he putting at my disposal eight of his own employés; and most enthusiastically did they all go to work, and with skill and needed caution, as there was not a little danger in unsettling the *débris*, lest the mass of unmortared masonry should descend upon the diggers.

The result of their labours went fully to prove that my former conjecture was correct, for on their making openings at intervals along the line of the great wall they found that this singular gallery, with its accompanying street of ruined houses, extended all the space of 600 feet, and they satisfied *themselves* of these facts as thoroughly as I did myself. They also throughout the mighty "cairn" were able to define the line of both sides of the great wall, under whose protection the whole had been placed. An effort was also made in order to ascertain the height of the remaining wall, by digging through the heaps of *débris*, but they dared go no farther than to 8 feet down, as the whole mass gave hints of an intention of descending adown the mountain steep, and life and limb were in danger, so we were left to conjecture its height by only what appeared above ground.

I made a closer survey of the second surrounding wall than at other times, and found traces of it for 400 feet—faint they are, but my workmen were sure of them. This is the wall which has under its protection four round houses.

The immense spread and unascertained depth of the stone *débris* of the great wall bears testimony to its former height. The outspread in some places may be said to extend to 1000 feet down the mountain side. At 80 or 100 feet distant from the wall the stones lie heaps upon heaps, sometimes to the depth of 20 feet; and, indeed, judging by the breadth of the wall, it must have been also a lofty one. The mass of the said *débris*, while it obscures the nature of the structure, is at the same time a chief cause of its preservation from utter ruin, and but for it the whole wall would *en masse* slide down the hill, for the foundation of rock on which it rests is more rotten than itself—a circumstance which is easy of explanation, but needs not here to be entered on.

The entrance way by which visitors now pass through the wall into the fort is regularly built on both sides. On my first visit to the fort I thought that this fact, together with its aspect of antiquity, seemed to show it to be the original doorway (though it is greatly wider than any other ancient one that I have anywhere seen), but I am now convinced that its antiquity is not great. There is also a *cart road* leading up to it which is probably of the same date; but all the neighbourhood will hold this to be a grievous heresy, as they thoroughly believe in its hoar antiquity, and this all the more so that it has got a place on the survey map of the county! Let the argument against its antiquity be put in this way. It is certain that the men of these olden times had no carts, and consequently had no roads of the breadth of this one, but the moderns had in this place, for they have removed a great quantity of stones, both from the walls and from the round houses. Some have expressed a doubt of this; but the stones are away, and were so situated that they could not fall away, from the round houses in particular, as the huge wall is a bulwark preventing this; and besides these facts there remains yet stronger evidence of removal, inasmuch as my party discovered among the

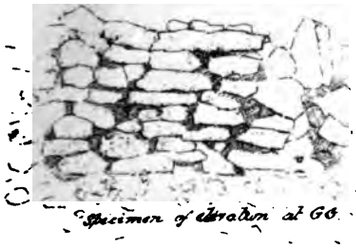
Auchocchies - Old Deer.

Benachie

te VII.

Fragment of Wall

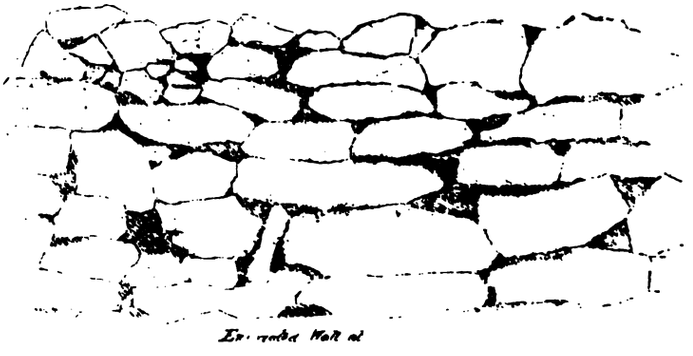
Fragment of great Wall, mid-work of rock at C.C.
Length 10 ft. Height 11 ft.



Specimen of ablation at GG.

Excavated Wall at I.

Curve of Wall at I.



Excavated Wall at

Boxachue

great stones two "*bores*," such as are used for blasting with gunpowder. These stones, being some of them 10 feet in length, could not have been put into a cart without being broken up, and it would be only after parties had first taken away the lesser stones that they would betake themselves to the blasting process, and in reality this has well nigh been done by all *approachable* ones. It is sad to have to add that wherever antiquities are on a great scale the same evil work is going on! Here on Benachie it has been done so long ago that no one remembers the doing of it, and perhaps the doers came from the other side of the hill, from whence there is a parish road.

The true and ancient entrance to the fort was on the west or steepest side of the "Mither Tap," where, amid a wilderness of stones, there were the distinct traces of a *covered* way, 40 feet of which a friend cleared out for me. The side walls were still 3 feet high, and the breadth of it 2½ feet. Its long roof stones lay beside, thrown off by human hands. This was its state six years ago. Near the summit of the cliff, but not upon it, are the sparse remains of another defensive wall.

All these discoveries induced me to make a fresh ground plan of this side of the fortification, and to append the following notes on it, as seemed necessary to understanding it:—

On ground plan A A—Showing the true frontage on both sides of the great wall; its breadth is 25 feet and of solid stonework throughout; the external masonry is of large and the internal of all sizes; nowhere are any of them water rolled, all are quarried or selected.

I I—The space between the wall and the round houses, about 3 feet in breadth; the gallery extends 600 feet in length.

F F—Part of walls round houses, 8 feet in height.

E—Other remains of round houses not needing any excavation, as their great stones lie on the surface.

B B—Here the wall still remains 14 feet in height; about the middle of it is a line of well-laid masonry, which, I think, indicates the former presence of an internal gallery. See G G.

H H—An upper portion of the wall.

L—A portion of the wall separated from the first-mentioned by a mass of granite rock at C; when first I saw this part it was 11 feet in height, now only 4.

Two years ago the gallery was almost destroyed. I am the more disposed to believe this to be the true entrance to the fort, just because it is on the most inaccessible side of the mountain; for in all the other forts that I have visited it was observable in them that the point of inaccessibility was the point of the builder's choice. The reasons for this are not far to seek. The stay ascent could be no objection to the warrior, and its steepness would make it more easy of defence; and the more accessible part was evidently that where need was that it should, by solid wall, be made invulnerable.

INDEX TO GROUND PLAN.

A—The great wall.
B—The street of round houses.
C—The so-called "Parquette."
D—The modern entrance.
E—Long gallery inside great wall.
F—Excavation made to ascertain height of wall.
G—The well.
H—Very faint traces of another wall.
I—Parts of wall that have slid down the hill.
J—Granite cliff.
K—A second great wall.
L—Four round houses within it.
M—A third wall.
N—Summit of the mountain.
O—Other granite cliffs.
P—The true ancient entrance.
Q—Fortification outside great wall.

VIII.—FORO ROMANO.

THE accompanying sheet of tracings of the "cup markings" to be seen on the floor and steps of the Roman Forum was done by me under the following circumstances:—

When, in 1875, I was in Rome, my friend Dr Grigor, so well known in that city, pointed out to me what he had for some time observed, the singular presence of groups of "cup markings" on the pavement slabs of the ancient Foro Romano. These have for long ages been buried under a mass of ruin, which is now nearly all swept away. No doubt this deep and long-continued covering has been the means of preserving for our instruction those "cup" and other interesting gravings.

As no drawing of these had been made, I at once set myself to that work, which I began by carefully measuring each of the stones containing cup or other figures or rude gravings, and feel certain that I can affirm the accuracy of their delineation.

While engaged in this task a policeman came and ordered me to desist: I did not heed him. Soon there came another with the same command: to this as little heed was given. At last came the captain of police, and he being backed by a thunder-storm, I had to stop work for the day. I learned that it was necessary for me to get the sanction of a certain official (whose designation I forget). Rome is not yet very free, when an artist cannot do a drawing of her stones without leave!

The similarity of these Forum "cup markings" to those of Scotland is striking and complete. For instance, like them, they appear not to have been cut out by the use of any iron or other metal tool, but to have been ground into shape, probably by the friction of a stone.

Besides the markings on the Forum there are others on its surroundings, and these are shown on the same sheet. And Dr Grigor has lately informed me that, to use his own words, he "has observed some dozen or so of concentrical circles on the neck of a rhinoceros in the entrance hall of the Kircherian Museum of the Collegio Romano; and very curious, all I can learn of it is, that it was brought from Greece?"

As the Norseman has left his mark to this day on the Lion of the Acropolis in Runes, which record his triumphs, need we refuse to accept of the cup markings on the Foro Romano as the mark of the *Celt in his?* Does not history itself tell us that he certainly was at one time very near to Rome in days of its decline!

INDEX TO CUP MARKINGS ON FLOOR OF FORUM.

A—Floor of Forum.
B—First step descending from floor.
C—Second do. do.
D—Descending step on the narrow end of Forum.
The floor and steps are all of white marble.

While the cup markings on each stone are accurately delineated, it may be found that some of them are transposed; for, owing to the great extent of the area on which they are graven, perfect accuracy in this respect was found to be almost impossible in the use of one sheet of paper; but an excellent judge (Dr Grigor, of Rome) was thoroughly satisfied with the general correctness of the accompanying ground plan.

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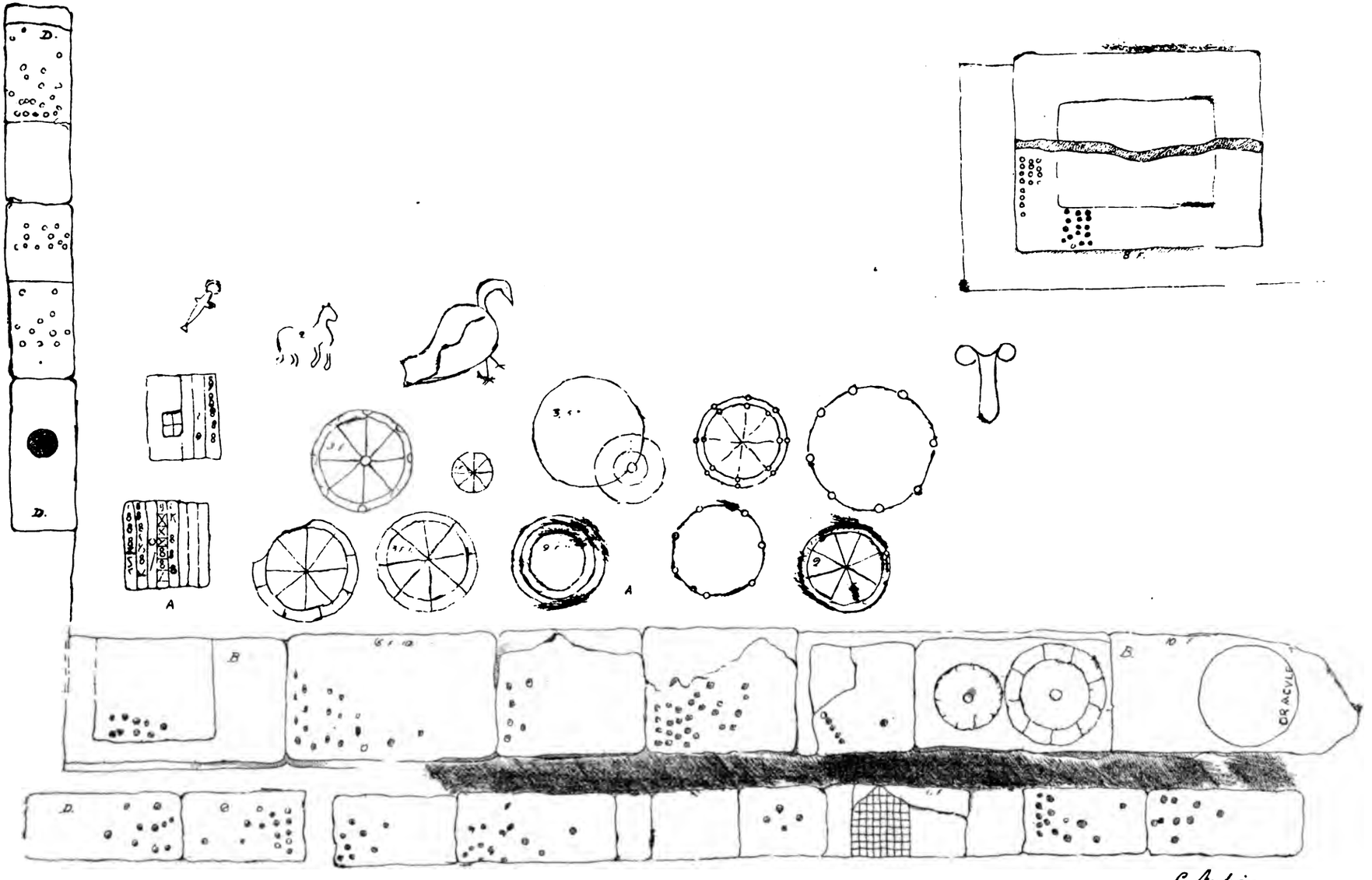

Ground Plan 88 of Cup-Markings on Roman Forum.

C. Bardgett

CHIPS FROM OLD STONES.

BY THE AUTHOR OF

"HILL FORTS AND STONE CIRCLES OF ANCIENT SCOTLAND."

"BOOKS LIE, BUT THE STONE IS TRUE."

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